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ABSTRACT

Intended for counselors, vocational education teachers, and others concerned with the assessment of disabled students' skills, this manual provides a comprehensive overview of vocational education evaluation. It may be useful in developing a vocational evaluation program. Chapter 1 is an introduction. Chapter 2 focuses on vocational evaluation through testing. Commercially available vocational evaluation systems are discussed, and six representative tests and work samples are summarized. A discussion of selection of a commercial vocational evaluation system includes an outline of 14 systems detailing their characteristics. A section on test screening contains a guide to tests for use in a comprehensive testing regimen. Chapter 3 overviews counseling. Topics covered in chapter 4 on data collection include interviews and types of information needed and possible sources. Chapter 5 addresses selection of sources of occupational information and use of information interviewing techniques for obtaining occupational and educational information. Chapter 6 focuses on job analysis and modification. Examples and forms are provided. Chapter 7, on reports, includes a sample report form. Chapter 8 briefly discusses case management. Use of off-campus vocational evaluation services is addressed in chapter 9. Appendixes include examples of forms, four selected case studies, and an annotated bibliography. (YLB)

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ED205702

VOCATIONAL SKILLS ASSESSMENT

FOR

DISABLED STUDENTS

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Preston Chipps, M.S., CRC

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INTRODUCTION

Vocational evaluation is basically a method designed to match an individual with appropriate jobs. Traditionally, people have found work by accident, by knowing someone in a position to hire, by carrying on a family tradition, by attempting different jobs until finally one is successfully performed and by other non-systematic means.

As professionals serving students with disabilities, our jobs call for us to show that we are providing assistance which results in successful academic and career achievement for students we serve. We can justify our jobs and assist students best if we can point to student goals which have been set and attained.

Using a systematic method of vocational evaluation should result in greater and quicker success in setting and reaching educational and vocational goals. Setting goals can be seen as the basis for all academic and vocational movement. Vocational evaluation can clarify and define goals, making the process more accurate and shortening time spent both in deciding on goals and in completing them.

DEFINITIONS

There are several ways of defining vocational evaluation. The Vocational Evaluator and Work Adjustment Association (VEWAA, a division of the National Rehabilitation Association) has suggested that: vocational (work) evaluation is a comprehensive process that systematically utilizes work, real or simulated, as the focal point for assessment and vocational exploration, the purpose of which is to assist individuals in vocational development. Vocational (work) evaluation incorporates medical, psychological, social, vocational, educational, cultural and economic data in the attainment of the goals of the evaluation process (Vocational Evaluation Project Final Report, VEWAA Bulletin, July 1975). The use of assessment which is geared to work performance rather than just test-taking performance increases the odds of a person locating optimal job goals.

Another view of vocational evaluation is that reflected by the evaluator's role. The role is to act as a problem-solver. The problem-solver must assist the student define the exact nature of the problem, to locate information sources to further define the problem, to keep the problem-solving process moving, and to expand appropriate occupational choices for the student. In this view, vocational evaluation is seen as facilitating student growth.

Vocational evaluation can be seen as a vocational exploration process. In order to find a good job choice, it is necessary to first investigate critical factors such as job availability in the local area, the student's preferences for work environment, salary, and other factors.

In summary, the vocational evaluator seeks to identify specific characteristics of an individual which, when assembled into meaningful patterns, point to vocational possibilities; should specificied criteria be met, the probability of success in attaining suitable employment is enhanced.

THE VOCATIONAL EVALUATION PROCESS

The evaluation process typically begins with a staff member identifying a problem area in working with a student, and defining the problem in terms of a vocational question, such as, "Is it possible for Joan to be a veterinarian?" or 'What occupations could John physically perform?".

The staff member completes a referral form, providing the evaluator with background information. An appointment is set for an initial interview between the evaluator and student. The evaluator, in the meantime, has received a copy of the referral form and has searched the student's file for educational data.

During the initial evaluation, the student is asked to define the expected or desired evaluation outcome, to detail historical information regarding his or her educational, vocational, medical, social, and cultural background, and to participate actively in the evaluation. The purposes and methods of evaluation are explained to the student, and perhaps "homework" is given in the form of an interest survey to complete, looking up specific occupational information in the career center, or to interview a person already employed in a job in which interest has been expressed.

An appointment is set for testing; if the student has a course schedule allowing for testing on a regular basis, time blocks can be set aside (e.g. two hours on Monday and Wednesday mornings).

During the evaluation/testing process, the student is asked to continue exploring possible occupations. This provides material for discussion and perhaps test selection or deselection. After the testing schedule has been completed, the evaluator schedules an exit interview to discuss test results. Patterns of data are presented in such a way as to allow the student to objectively view himself or herself. The student is then encouraged to decide which vocational goals to explore. The consequences of particular decisions are discussed with the evaluator, with suggestions for sources of further information or services.

The evaluator presents the evaluation report to a team of professionals involved in serving the particular student. Expertise from many fields, then, is built into the evaluation recommendations, resulting in referrals to appropriate professionals for follow-up.

Here is a case example from Chaffey College. The evaluation report recommended that John could consider drafting as an appropriate goal (within his physical abilities, interests, and cognitive abilities) but only if he brought his math achievement level from grade 9 to grade 12 (as measured by the WRAT arithmetic achievement test). The special education instructor agreed that John had the ability, and should enroll in remedial math. At a class-scheduling appointment, John's academic counselor discussed the value of math remediation with John, who agreed to enroll in such a course. After two quarters of work, John brought his math skills up to twelfth grade level and completed prerequisites to take advanced drafting courses. The career counselor discussed training and local job opportunities with John. John completed his AA degree and found employment with a local firm.

Of course, this example has been greatly simplified, but it illustrates the general procedure involved in vocational evaluation. It should be pointed out that John has been actively involved in teh self-discovery process, locating information about jobs, making decisions, and carrying them through to completion. He has been assisted by professionals, but now could probably perform he same activities independently because he practiced performing them. If he should lose his drafting job, for instance, because of failing eyesight, he might repeat the vocational evaluation - exploration process with minimal assistance.

The following assortment of text, materials, charts, and lists will focus on specific areas of vocational evaluation. The main issues covered are: testing, counseling, job analysis, vocational exploration, transferrable skills, work samples, case management, and use of off-campus vocational evaluation services. An appendix containing a glossary of terms, an annotated bibliography, information resources, and selected case studies will complete the manual. You are encouraged to insert new materials in appropriate sections as they become available.

How To Use This Manual

The organization of materials contained in this Manual is such that the reader can progress from the first to last section in order to gain a comprehensive overview of vocational evaluation, or a specific area of knowledge as outlined in the Table of Contents can be referred to in order to locate appropriate information.

For example, after reading the Manual from beginning to end, the reader may wish to implement a testing program. The section on "Testing in Vocational Evaluation" can be more closely scrutinized. Then, in order to see how the use of tests are applied to actual evaluations, the reader may review "selected case studies" in the Appendix. As other issues emerge, respective sections of the text can be reviewed.

Enough background information and specific information is contained in the Manual to allow a person wishing to construct a vocational evaluation program to begin at a minimal level and progress to more sophisticated levels, as expertise, needs, and resources become more developed.

Sources of more specific information are listed in the Materials Development Center's publication, "Suggested Publications For Developing An Agency Library on Work Evaluation, Adjustment, and Facility Management," from MDC, **Stout Vocational Rehabilitation Institute**, University of Wisconsin - Stout, Menomonie, Wisconsin 54751.

VOCATIONAL EVALUATION

The birth of vocational evaluation as a systematic approach to determining the vocational potential of individuals is most often associated with the development of the TOWER battery of "work samples" by the ICD Rehabilitation and Research Center in the 1950's.

The vocational testing, on the one hand, is traditionally involved with paper-and-pencil tests of interest, intelligence, personality, and achievement. Many guidance counselors and psychometrists soon realized, however, that these tests were too far removed from the world of work to offer a completely valid assessment of an individual's vocational potential.

This dissatisfaction led to the development of work samples. Samples of tasks involved in various jobs and vocational fields were standardized into test "work sample kits". The normal process for the development of such a work sample is to first complete a broad survey of the tasks involved in a particular job in a wide sample of geographic locations. Then, tasks most common to all of the different modifications of the job are standardized into the work sample. "Standardized" simply means that the tasks, tools, and procedures, and administration of the work sample are the same for all clients regardless of their assumed abilities and limitations. The reason why standardization is so important is that it allows for more valid comparison of the client's speed, quality, and job knowledge scores with those of people having previously been administered the sample, who are currently successfully employed in the job for which the sample is relevant. This comparison allows the evaluator to make realistic statements regarding the client's potential for the particular job of interest. The purpose, then, of work samples is to present the client with a "slice" of the physical, intellectual, and emotional demands of particular jobs.

Some of the advantages of work samples, as compared to vocational tests are: (1) they assess the same skills, aptitudes, and abilities as required on specific jobs; (2) since they look like real work, they tend to motivate the client more than paper-and pencil tests; (3) they are much less affected than vocational tests by factors such as educational level, and speech/hearing deficits. In addition, work samples can provide: pre-post training and educational data; initial job screening; identification of attitude-counseling needs; identification of physical therapy and assistive device needs; early diagnosis of disabilities in order to set client on appropriate job route and avoid failures; indications of needed job restructuring.

Testing is normally conducted from general to specific goals. In other words, the client is given standard batteries initially, and the evaluator adds further tests as she/he determines more areas of investigation. The McCarron-Dial Work Evaluation System (MDWES) is an example of such a general battery. It includes 7 tests in all, covering 5 factors (verbal-cognitive, sensory, motor, emotional, and integration-coping). The client's performance on each of these tests is converted to "T" scores and placed on a profile comparing them to the scores of a developmentally disabled population. The McCarron-

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Portions of this section have been excerpted from Vocational Guidance For Handicapped Students: A Training Program (1980).

Dial also provides norms for other disabled populations with various disabilities. The results indicate whether the client is capable of community employment, or some level of sheltered workshop job.

When involved in evaluation, the evaluator must view himself or herself as a camera, or tape recorder, as it were - a completely objective information gatherer. Conclusions must always be made on the basis of concrete, observable evidence, not supposition.

In addition, there are many administrative considerations which can seriously affect the client's performance. The client's expectations concerning the use of test results, and his/her ability to realistically assess his/her abilities and limitations in regard to the job market are extremely important. The client's expectations and interests, his/her reaction and attitude toward: the testing environment, the examiner, other clients, specific tests, and many other factors all have a bearing on the test results. For these reasons, the observation skills of the evaluator must be consistently sharp.

Once the evaluator has administered the general battery, and obtained the basic range of the client's interests, achievement, IG, physical, and emotional deficits and strengths, she/he can test the client with appropriate work samples. The choice of work samples can be dictated by: the client, the referring agency, or specific abilities and limitations reflected by testing.

Once the client's general limitations and abilities have been identified, and his/her performance on relevant work samples compared to norms for people working in the community, general statements regarding the vocational potential of the client can be made.

Unfortunately, although the work sample is a more appropriate and accurate test of vocational potential, it still is too specific to make sweeping statements regarding success on a particular job which may vary significantly from work sample tasks, even though it's title is the same. For instance, a welder's position in a small independent business, short of help may involve 10 other tasks as well, whereas the same job in a large industry with the staff necessary to allow for specialization is restricted to welding. Thus, even with work samples, the evaluator must stick strictly to the observed behaviors during evaluation, and make general statements regarding success in vocational fields. Also, little research has been performed on most work samples to establish predictive validity.

Depending on the agency for which the evaluation is being conducted, the evaluator's recommendations may include: physical therapy programs; assistive devices; prosthetic/orthotic aids; counseling; medical/neurologic/opthalmic exams; medication reviews; sheltered workshop placement; vocational training, or on-the-job training, educational placement; immediate community employment, and many, many others.

The evaluation may even suggest that "job restructuring" be investigated due to a combination of strong client interest in a job, and functional limitations for the tasks involved. As might be anticipated from the title, "job restructuring" simply means conducting a job-site analysis to determine how a job might be modified physically and procedurally, in order to fit the abilities of the disabled client. Thus, a client in a wheelchair might be quite capable of above-average bench assembly work, provided she/he were given a low wide bench, and a console that is closer to the edge of the bench than normal. Some jobs might be easily trimmed from 5 tasks to 4 to accommodate a disabled client for whom the fifth task is slightly complex, or strenuous.

Thus, it can be seen that an evaluator must have a broad range of knowledge for competent performance. She/he must, for example, have a complete understanding of the use of such vocational reference materials as the DOT or the OOH. His/her understanding of tests, scoring procedures, and the diagnostic methods/philosophies is especially critical. In addition, the evaluator should have a working knowledge of the vocations, industries, businesses, and resource agencies in his community. More specifically, she/he should know how to conduct job analysis and the techniques of job restructuring. And last, but hardly least, the evaluator must understand the symptoms of all disabilities, and have a working understanding of counseling techniques.

Once the evaluator has made his/her recommendations, his/her responsibility to the client is not terminated. She/he normally conducts an exit interview with the client and a representative of the referring agency for the purpose of clearly communicating the client's range of interests, abilities, and limitations, and how they relate to future vocational success. It is at this point that the evaluator's guidance into the right vocational training, or placement setting, or into the program of some resource agency is most vital.

As mentioned in the Introduction, vocational evaluation is a comprehensive process of information gathering and decision making. It is combined with vocational exploration, counseling, action, and working toward student independence. The greatest benefit of an evaluation to the student is the sense of personal power which can be derived from self-knowledge, knowledge of informational resources, and making personal decisions which significantly alter his or her future.

The importance of making systematic, reasoned judgments regarding a person's vocational future is pointed out by noting the ramifications of entering a particular vocation. The job held by an individual affects many aspects of life: amount of earnings, resulting lifestyle, level of job satisfaction, types of friends, geographical area of residence, status in the community, health, hours of work (effecting recreational and family activities), and sense of personal self-worth.

However, a decision to enter a particular field of work should not be seen as final or absolute. We continue to learn about ourselves as we pass through life. Economic and technological changes influence the availability and demands of jobs. A decision to "be" a bartender can turn out to be inappropriate after several years experience, resulting in a decision that restaurant management is more appropriate.

Therefore, the vocational evaluation exploration process should be taught to the student in such a way as to maximize that person's ability to carry on the process as independently as possible. The instructional nature of vocational evaluation should not be minimized. The active participation of the student in practicing self-assessment and using occupational information resources should be a major focus of a vocational evaluation program.

Although an evaluation may be conducted by using specific tests or work samples, the process of self-discovery should be the focus of interaction between the student and the evaluator. For the student, how test results are used is more important than the actual test. Evaluators must be openly honest about the short-comings and limits of their assessment so that no "mystery" surrounds the process.

The evaluator should have brought the student through the following by the end of the formal process. The student should have learned about himself or herself in such a way as to be able to list specific abilities and limitations as well as general patterns of likes, dislikes, and direction of movement toward job entry. The student should have learned where to locate and how to use sources of vocational information. The student should have had practice in using informational resources. The student should have learned how to analyze a job to see if it fits her or his personal makeup. The student should be aware that jobs can be modified to match himself or herself, and how to determine the feasibility of modification. Finally, the student should have been made aware of resources on-campus and in the community which can be used in the future.

Typically, on-campus resources can be of great assistance to the evaluator. A team of experts probably exists, such as: resource specialists, job developers, diagnosticians, career center coordinators, nurses, counselors, and instructors. Their expertise should be sought either on an individual basis or in team meetings in which the results of a vocational evaluation of a student can be discussed. "Outside" experts such as Department of Rehabilitation counselors, social workers, physicians, psychologists, and other professionals can be kept in mind as consultants.

The evaluator's role can be that of coordinator as well as diagnostician, counselor, and expert on vocational information. The coordinating role calls for establishing a relationship in an organized way with other professionals.

VOCATIONAL EVALUATION SYSTEMS

There are perhaps twenty-eight commercially available vocational evaluation systems. The Materials Development Center has compiled an excellent overview of fourteen of the most commonly used systems.

Based on a particular campus' needs and available resources, the decision can be made to purchase one or several work evaluation components or systems, or to purchase manuals to develop in-house work samples.

Should purchase of work sample manuals be decided upon, it is recommended that the reader review "Some Considerations in Using the Materials Development Center Work Sample Clearinghouse," by Paul McCray in Vocational Evaluation and Work Adjustment Bulletin (Winter, 1979, Vo. 12, No. 4, pages 27-29). The commission on Accreditation of Rehabilitation Facilities CARF has recommended that work samples meet the following criteria:

1. Work samples must be representative of actual competitive worker skills.
2. They must be based on analysis of job tasks or traits.
3. They must be standardized.
4. They must have competitive norms or standards.

If purchase appears unfeasible, consideration can be given to job site assessment, situational assessment, psychological testing, or other means, as an alternative to use of a vocational evaluation system.

Whatever decision is made, the idea should be kept in mind that no matter how attractive and appealing work samples may be, they are not the "answer" to vocational evaluation. Any assessment instrument should be seen as a counseling tool, not the panacea to solving the problem of effectively guiding a student toward employment.

The reader is now referred to: 1. A Comparison of Commercial Vocational Evaluation Systems; 2. The Work Sample Manual Clearinghouse Catalog; 3. The chart, "Vocational Evaluation Assessment Instruments." The purchase of 1 and 2 is strongly recommended.

The following is taken from Vocational Guidance For Handicapped Students: A Training Program (1980).

Obviously, not all agencies have the financial or personnel resources available to employ comprehensive work assessment batteries. However, there are community agencies which often have vocational evaluation services available. A partial list of such agencies is as follows:

1) State Department of Rehabilitation
2) Employment Development Department
3) private and public rehabilitation agencies

4) sheltered workshops

5) veterans' hospitals

6) many community hospitals

7) vocational training programs

8) probation departments

In addition, it is possible for agencies with limited resources to purchase low-cost vocational testing batteries with which to conduct preliminary general testing before referring the student to agencies offering vocational evaluation. The following are samples of suggested batteries:

OPTION #1

Wechsler Adult Intelligence Scale (WAIS)	Level C *
California Occupational Preference System (COPS)	Level A
McCarron Assessment of Neuromuscular Development	Level B (Training Suggested)
Crawford Small Parts	Level A
Wide Range Achievement Test (WRAT)	Level B
Wide Range Interest and Opinion Test (WRIOT)	Level B

OPTION #2

McCarron-Dial Work Evaluation System (MDWES)	Level B
WAIS	Level C
Peabody Picture Vocabulary Test (PPVT)	Level B
Strong-Campbell Vocational Interest Inventory	Level B
Self Directed Search	Level A
Adult Basic Learning Examination (ABLE)	Level A

OPTION #3

Culture Fair Intelligence Test (Cattell)	Level B
Kuder Interest Survey	Level B
MAND	Level B
Career Assessment Inventory	Level B
Microtower Work Samples (Bottle Capping and Packing, Electronic Connector Assembly, Lamp Assembly)	Level A

*Eligibility to purchase tests is determined on the basis of training and experience. Registration forms are available on request from many test publishers.

The following classifications are commonly used:

1) Schools, colleges, and governmental agencies.

Orders received on official purchase forms or by officially signed letters will be filled promptly. Orders may need to be countersigned by a qualified supervisor if the test user does not meet the required standards of training and experience.

2) Business and Industrial firms.

Level A - Company purchase orders for tests commonly used for employment purposes will be filled promptly.

Level B - Staff member of firm must have completed advanced level course in testing at University or its equivalent in training under qualified superintendent.

Level C - Available to firms only for use by qualified psychologists, members of the American Psychological Association or person with Master's degree in psychology and appropriate training in the field of personnel testing.

In order to assist you in determining your agency and client test needs, a work sheet has been included in this manual. You will be able to identify the test factors for which you feel a test is needed, and identify the tests which relate to each factor. A representative list of vocational evaluation tests and work samples has been provided for this purpose.

WORK SHEET INSTRUCTIONS

1. Check off factors for which you feel a test is required.
2. List all tests available in your agency which fit checked factors.
3. Utilizing tests in Figure 2, and those additional tests discussed in the seminars, list a test for each of the remaining items you have checked.
4. Devise a battery of tests most appropriate for your needs and begin to make a cost sheet.
5. Determine if your agency has the ability to purchase all, or part of your suggested battery (your checklist, and test description list, can be used to establish the value of the battery for your clients).
6. If your agency cannot purchase such tests, or can only purchase a portion, begin to investigate community vocational evaluation resources.
7. Check off agencies which provide tests you are interested in and list the process for referral.

VOCATIONAL EVALUATION
BATTERY SELECTION SHEET*

FACTORS FOR WHICH I/ AGENCY REQUIRE A TEST		POSSIBLE TESTS
____	ACHIEVEMENT:	____________________
____	READING	____________________
____	MATH	____________________
____	SPELLING	____________________
____	OTHER	____________________
____	INTEREST:	____________________
____	IQ	____________________
____	VOCATIONAL APTITUDE	____________________
____	MECHANICAL APTITUDE	____________________
____	JOB-SEEKING SKILLS	____________________
____	INDEPENDENT LIVING SKILLS	____________________
____	PHYSICAL SKILLS:	____________________
____	TOLERANCE	____________________
____	DEXTERITY	____________________
____	BALANCE	____________________
____	COORDINATION	____________________
____	STRENGTH	____________________
____	RANGE OF MOTION	____________________
____	PERCEPTUAL:	____________________
____	AUDITORY	____________________
____	VISUAL	____________________
____	TACTILE	____________________
____	PERSONALITY/EMOTIONAL	____________________
____	SPECIFIC DISABILITY TESTS	____________________

SUGGESTED COMMUNITY TESTING RESOURCES	MY COMMUNITY RESOURCES
STATE DEPARTMENT OF REHABILITATION	____________________
EMPLOYMENT DEVELOPMENT DEPARTMENT	____________________
PRIVATE REHAB FACILITIES (WORKSHOPS)	____________________
DEPARTMENT OF PUBLIC SOCIAL SERVICES	____________________
VETERAN'S HOSPITALS	____________________
COMMUNITY HOSPITALS	____________________
VOCATIONAL TRAINING PROGRAMS	____________________
PROBATION	____________________

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* From Vocational Guidance For Handicapped Students: A Training Program (1980).

COMPREHENSIVE OCCUPATIONAL ASSESSMENT AND TRAINING SYSTEM (COATS)

1. Development

   a. Sponsor - The system is sponsored by Prep, Inc.

   b. Target Group - Originally designed for use in manpower and training programs and secondary education systems, the system has been used in many different rehabilitation settings. The program content of many of the materials is youth orientated. However, the developer states that the Living Skills component is also aimed at adult education.

   c. Basis of the System - The COATS is based on several sources; studies done by Prep, Inc. and research reports taken mainly from federally funded projects were used to establish the need for and the content of each of the four components listed below.

2. Organization

   a. Name and Number of Work Samples - The COATS System consists of four components which are intended to give the evaluator a complete picture of the client. (Each component may be used independently.) Each component contains three different program levels: (1) assessment and analysis, (2) prescription and instruction, and (3) evaluation and placement. The four components are as follows:

      (1) Job Matching System - This component is an assessment program designed to match a person's preferences, experiences, and abilities to employment and/or training opportunities. The COATS Job Matching System is essentially an audiovisual version of the Cleff Job Matching System. The basic method is to match the client to 24 occupational clusters, each of which includes a number of job titles. The matching process used 16 skill categories, which are grouped into three major areas: Concrete, Social, and Information. These are obviously taken from the Data-People-Things hierarchy of the Dictionary of Occupational Titles. The clusters can also be used to refer persons to the appropriate COATS Work Samples. Fifteen audiovisual cartridges present photographs and drawings from each of the skill categories. Five cartridges deal with worker preferences, five with experience, and five with capabilities.

(2) Employability Attitudes System - In this component the client determines what his attitudes and behaviors are and compares them with the attitudes that employers see as being important for the hiring, promoting, or firing of an employee. Thirteen job seeking categories (i.e., integrity, time management, and concern for details) and 23 job keeping and job advancing categories (i.e., concern with details, persistence, and social judgment) are used. Student results can be compared with employer norms for several groups - type of industry, geographical regions, size of company, and union. Six audiovisual cartridges containing what the developer calls 25 "real life" adventures are used. Some of these adventures appear to be contrived and not too realistic.

(3) Work Sample System - This component contains 26 work samples that were developed on basis on content analysis of tasks common to job families (e.g., electricity). These job families are based on U.S. Office of Education Career Clusters rather than the DOT. The 26 work samples are: Drafting, Clerical Office, Metal Construction, Sales, Wood Construction, Food Preparation, Medical Services, Travel Services, Barbering/Cosmetology, Small Engines, Police Science, Masonry, Electrical, Electronics, Automotive, Commercial Art, Nutrition, Bookkeeping, Fire Science, Real Estate, Extraction Technology, Clothing and Textiles, Communication Services, Refrigeration, Solar Technology, and Computer Technology. Each of the 26 work samples can be used independently. Instructions are contained on audiovisual cartridges. Each work sample contains occupational information which is used to elicit the degree of client interest in the work sample. The instructions are given in a step-by-step manner and the cartridge stops when a task is to be performed.

(4) Living Skills System - The component deals with what skills are needed to functionally literate in contemporary society. The program classifies literacy into skills (reading, writing, computation, problem solving, and speaking-listening) and knowledge areas (consumer economics, occupational knowledge, community resources, health, and government-law). Six cartridges containing 18 "adventures" are used to evaluate literacy skills and knowledge areas. As with the employability attitudes component, many of these adventures are contrived.

b. Grouping of Work Samples - As described above, each of the four components can be used independently. The 26 work samples can be used as a group or as separate assessment devices.

c. Manual - The COATS uses a separate loose-leaf manual for each component. These manuals contain all administration details, interpretation of results, hints for working with clients on each of the three levels, as well as a summary of the research studies and the development methodology used for each component. A separate manual is also used for each work sample.

3. Physical Aspects

a. Packaging of Work Samples - Each of the 26 work samples is separately packaged in a portable container no larger than 16 x 24 x 20. The work samples can be set up on a tabletop or in a 48 inch wide carrel. The other three components are each packaged separately.

b. Durability - the work sample containers are made of 3/4 inch birch plywood and formica. The manufacturer claims a frequency of repair record of 1/2 of one percent for the audiovisual equipment.

c. Expendable Supplies - All components use a considerable amount of expendable supplies. Each component includes a separate series of computer scored forms, instruction books, and exercises. In addition, the 26 work samples use wood, wire, sheet metal, etc. Consumable packages for testing ten persons "range from $5.00 (Police Science) to $130.00 (Barbering/Cosmetology) with an average cost of $50.00."

d. Replacement - All forms must be ordered from Prep, Inc.; supplies for the work samples can be locally obtained.

4. Work Evaluation Process

a. Preliminary Screening - No preliminary screening is required.

b. Sequence of Work Sample Administration - The four components may be given in any order. The 26 work samples need not all be administered or administered in any particular order. Because each component is more-or-less independent, components may be purchased and used independently of each other.

c. Client Involvement - There is extensive client involvement following the assessment part of the Employability attitudes and Living Skills. Employability Attitudes instructions involves a Learning Activity Package with 337 Job Seeking and Job Keeping lessons; Living Skills instructions involves a series of 24 audiovisual lesson packages addressed to basic skill development. The evaluator monitors client progress, helps when necessary, and coordinates the activities of several clients.

d. Evaluation Setting - Although the manuals do not specify a particular setting, the use of audiovisual materials, answer sheets, handbooks, as well as the emphasis on activities gives the COATS a classroom atmosphere.

e. Time to Complete the Entire System - The developer states that a total of from 52 to 93 hours are required to complete evaluation with all 26 work samples. However, in actual use, only from four to ten work samples are usually given. All components except work samples can be administered to small groups.

5. Administration

a. Procedures - The materials required and the layout are clearly described.

b. Method of Instruction Giving - Instructions for all four components are presented on a cartridge containing an eight track audiotape synchronized with a 16mm filmstrip. In work samples, the client responds to performing work activities as directed by the cartridge. The client also completes a form on which he or she rates self-interest and self-performance. In the other three COATS components, the client responds by completing a machine scorable answer booklet. The work samples do not require the client to complete tasks on a timed basis.

c. Separation of Learning/Performance - This category does not apply to the Job Matching, Employability Attitudes and Living Skills components. There is very little separation of learning from performance in the Work Sample Component. Most client instructions do not require a criteria to be reached before going on to repeat the task on a timed basis.

d. Providing Assistance to the Client - The evaluator is to make certain that the client understands all instructions prior to beginning a task. Additional instructions can be given once the task has begun if the client is having trouble understanding them. Evaluator checkpoints are used during work sample administration.

e. Repeating Work Samples - No information is contained in the manuals concerning the re-administration or work samples or the other three components.

6. Scoring and Norms

a. Timing - The only timed components are the work samples. Here, either the evaluator times the client or the client times himself.

b. Timing Interval - This is not specified in the work sample manuals. It most likely includes all the time the client is under the direction of the audiovisual program.

c. Time Norms - The total time to completion is reported on the computer generated Work Sample System Student Record Form or on the hand scored Work Sample Evaluation Report.

d. Error Scoring - After completion, all work sample results are checked against carefully defined scoring criteria. The results of each task within the work sample are judged separately and rated on a four-point rating scale. It must be stressed that all scoring is done by computer, except for the work sample component. Here a hand scoring option is available.

e. Scoring Aids - No scoring aids are used.

f. Quality Norms - The quality of each work sample is presented in the form of a skill rating and data on the percentage of tasks successfully completed on the computer printout. Each task is scored separately.

g. Emphasis in Scoring - Time and quality scores are given for each work sample, with the emphasis on quality.

7. Observation of Clients

a. Work Performance - No work performance factors are recorded on the evaluator's Behavior Observation Form during work sample administration.

b. Work Behaviors - During the administration of each work sample, the evaluator observes the client on: efficiency, relationship to authority, behavior in work setting, peer relationships, and self-appearance. These are general characteristics and are not defined in behavioral terms.

c. Recording System - No rating system is used; the evaluator uses a computer-scored form to record the number of types of specific behaviors.

d. Frequency of Observation - The manual does not give any specific schedule for behavioral observations; it merely states that the client is to be observed on a scheduled basis.

8. Reporting

a. Forms - the COATS contains computer-scored answer sheets for the Job Matching, Employability Attitudes, and Living Skills Systems. Each work sample uses a separate form which contains client self-ratings of interest, quality, and speed. During work sample administration, the Behavior Observation Form is used by the evaluator to record behaviors. At present, turnaround time is about one week for computer scoring. Work samples can also be hand scored using a separate form.

b. Final Report Format - Each component of the COATS System produces a computer-generated final report of the assessment phase. The work samples hand scoring format is a four page report form which contains evaluator ratings for work performance, work behavior, time; client-rating for interest; evaluator recommendations for job and/or training placement and a signature section to document that the client has been given the opportunity to review his or her report.

9. Utility

a. Vocational Exploration - The Job Matching, Employability Attitudes, and the Work Sample Systems provide the client with a wealth of occupational information.

b. Vocational Recommendations - The COATS provides vocational recommendations for both individual jobs and groups of related jobs.

c. Counselor Utilization - At present the COATS is basically designed for client (or student) self-interpretation followed by activities designed to change client behavior. The evaluator must be able to provide the counselor with a useable report using the wealth of data generated by the COATS.

10. Training in the System

a. Training Required - No

b. Training Available - Yes

c. Duration - Three to five days of training at the purchaser's facility are required.

d. Follow-up - Yes

11. Technical Considerations

a. Norm Base - Adequate norming procedures were used for all components except the Work Sample Component. Presently time norms are available on only 11 of the 26 work samples. Only student norm groups were used and the sample characteristics are not clearly defined. No client, employed worker or predetermined time standards are used.

b. Reliability - The manuals for each component as well as technical reports give data on reliability for all components. While the reliability coefficients reported are adequate, some of the procedures are not given in enough detail to judge the meaning of the results.

c. Validity - Validity for most of the COATS materials rests heavily on content validity. The manuals contain several studies and each component must be judged on its own merits. The work samples, for example, stress the relationship between the tasks and actual jobs, and yet, no job task matrix is given.

12. Reviewer's Summary and Comments - The COATS is the most comprehensive evaluation system presently available for use in educational and rehabilitation settings. The system is logically consistent, well designed, and based on a wide range of research studies. Two unique aspects are: (1) the emphasis upon the client using the results of the assessment to plan and, hopefully, change his own behavior and (2) the fact that each component can be used independently. This means that a facility could use, for example, the Work Samples and Job Matching Systems in an evaluation unit, the Employability Attitudes System in a work adjustment program, and the Living Skills System in a literacy training program. The COATS was basically designed for school populations and this results in several potential problems for rehabilitation facilities: (1) the client must be able to read at about the eighth grade level to use the written materials effectively, (2) the use of audiovisual format and separate answer sheets may present some problems for persons with hearing, visual and/or learning handicaps, and (3) except for the hand scored work sample option, the turnaround time of one week is a problem for facilities that typically have a two to three week period of evaluation. From a technical point of view, the weakest component is the Work Samples, which do not presently contain adequate norms.

13. Address

Prep, Inc.
1575 Parkway Avenue
Trenton, New Jersey 08628

14. Cost

The cost of each component is as follows:

1.	Job Matching System (15 cartridges, manuals, and forms for 20 persons)	$2,080.00
2.	Employability Attitudes (6 cartridges, manuals and forms for 20 persons)	1,285.00
3.	Living Skills (6 cartridges, manuals, and forms for 20 persons)	1,275.00
4.	Work Samples - Price of work samples range from $435.00 to $1,450.00; the average price is $897.00. Each work sample comes with tools, cartridges, guides, and consumables for 20 persons. Average scoring cost per work sample is $5.00 per person.	

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McCARRON-DIAL WORK EVALUATION SYSTEM
(McCARRON-DIAL OR MDWES)

1. Development

   a. Sponsor - The MDWES was originally developed by Lawrence T. McCarron and Jack G. Dial. It is presently being marketed by McCarron-Dial Systems, Common Market Press.

   b. Target Group - The system can be used with: (1) mentally retarded, (2) mentally ill, (3) specific learning disabilities, and (4) neuropsychologically disabled (i.e., higher brain center structural or functional disorders). It can also be adapted for use with blind and deaf persons. Outside of rehabilitation settings it has been used to assess normal and functionally delayed children.

   c. Basis of the System - The system is based on five factors: verbal-cognitive, sensory, motor, emotional, and integration-coping. These five factors were derived from an assessment of three dimensions: verbal and synthetic-spatial skills; sensory-motor skills; and emotional-coping skills.

2. Organization

   a. Name and Number of Work Samples - the MDWES consists of eight separate instruments grouped into five factors:

      (1) Verbal-Cognitive - Wechsler Adult Intelligence Scale (or the Stanford-Binet Intelligence Scale) and the Peabody Picture Vocabulary Test. In many instances, an achievement test such as the Wide Range Achievement Test (WRAT) or the Peabody Individual Achievement Test (PIAT) is also given.
      (2) Sensory - Bender Visual Motor Gestalt Test (BVMGT) and the Haptic Visual Discrimination Test (HVDT). For visually disabled clients, the Haptic Memory Matching Test (HMMT) is used in place of the HVDT and the BVMGT.
      (3) Motor - McCarron Assessment of Neuromuscular Development (MAND). The following ten tasks assess fine and gross motor abilities:
         (a) Fine Motor Skills Assessment: Beads-in-Box; Beads-on-Rod; Finger Tapping; Nut-and-Bolt Task; and Rod Slide.
         (b) Gross Motor Skills Assessment: Hand Strength; Finger-Nose-Finger Movement; Jumping; Heal-Toe Tandem Walk; and Standing on One Foot.

There are 39 possible scoring options for these ten measures.

(4) Emotional - Observational Emotional Inventory (OEI). In some instances, the MMPI and the House-Tree-Person are also used.

(5) Integration-Coping - The Dial Behavior Rating Scale (BRS) and the Street Survival Skills Questionnaire (SSSQ) are used.

b. Grouping of Work Samples - The tests, tasks, and scales are grouped according to five factors; all devices are closely interrelated.

c. Manual - The system uses a total of four manuals: (1) MDWES--Evaluation of the Mentally Disabled: A Systematic Approach; (2) McCarron Assessment of Neuromuscular Development Manual; (3) Sensory Integration: The Haptic Visual Processes, and (4) Adaptive Behavior: The Street Survival Skills Questionnaire. In addition, separate manuals are required for the psychological tests (e.g., PPVT, Bender). These manuals contain all system details. The MDWES manual contains an overview of the system as well as data on combining and interpreting the results. However, because this manual is relatively detailed and statistically sophisticated, several careful readings will be required before the reader will be able to fully understand the system.

3. Physical Aspects

a. Packaging of the Work Samples - The MDWES is packaged in five separate kits, each about the size of a large brief case. An auxilary kit contains the Bender, PPVT, the OEI, BRS, reporting forms and the system manual. The MAND, HVDT, HMMT, and SSSQ are each contained in separate kits.

b. Durability - The only component of the MDWES to which the question of durability applies is the MAND. Because the evaluator or psychologist is present at all times and sets up the equipment, there should be little problem with durability.

c. Expendable Supplies - The only expendable items are the various test answer sheets, behavorial observation forms and report forms. No consumable materials are used.

d. Replacement - All replacement parts must be ordered from the developer. This is absolutely necessary to maintain standardization of the testing materials.

4. Work Evaluation Process

   a. Preliminary Screening - An interview with the client and the referral source is urged to obtain background data on the client.

   b. Sequence of Work Sample Administration - Administration begins with factor one and continues through factor five.

   c. Client Involvement - Client involvement is encouraged during the assessment period. Upon completion, the manual recommends individual counseling to provide help for the client to move toward realistic work-training goals and expectations.

   d. Evaluation Setting - A formal testing setting is used for factors one through three and for the SSSQ in factor five. The other two factors require a period of placement in a work setting, most commonly a sheltered workshop. When used in clinical or educational settings, office or classroom situations are used for making behavorial observation.

   e. Time to Complete the Entire System - The first three factors and the SSSQ (factor five) can be completed in a day or less. A minimum of one week (two weeks are recommended) for systematic observation in a work setting, most commonly a sheltered workshop, is required for the emotional and integration-coping factors when used in work evaluation.

5. Administration

   a. Procedures - Instructions, materials needed, layout and scoring procedures are all specified in detail. Standardized tests are administered according to instructions in their test manuals.

   b. Method of Instruction Giving - All instructions for factor three (MAND) and parts of factors two (HVDT) and five (SSSQ) are given orally through demonstration accompanied by kinesthetic cues or total communication systems as needed. Factors one and the Bender (factor two) are given according to their manuals.

   c. Separation of Learning/Performance - Most of the factors in the MDWES are based on formal testing concepts and do not separate learning from performance. The MAND allows for repeating of instructions, but has no formal criteria as to when the instructions have been learned. Because the McCarron-Dial is not a work sample system per se, this criteria is not appropriate for most of the MDWES assessments.

d. Providing Assistance to Clients - The evaluator is to make certain that the client fully understands the instructions of each task; no assistance beyond that specified by the test manuals can be given during formal testing.

e. Repeating Work Samples - All factors may be repeated as necessary if the evaluator questions the accuracy of the results. However, readministration of many of the assessments depends upon the instructions in their individual manuals.

6. Scoring and Norms

a. Timing - The evaluator times the client on many tasks; some parts of the McCarron-Dial are untimed.

b. Timing Interval - The tasks that are timed generally involve counting the number of responses or accurate observation for a specified number of seconds.

c. Time Norms - Separate time norms are given for four of the MAND tests (i.e., Beads-in-Box, Beads-on-Rod, Nut-and-Bolt and Standing on one foot). The remainder of the Tasks (except the WAIS) involve the combination of time and quality scores to form a single raw score or a performance score. These scores are converted to percentiles and plotted on a profile sheet.

d. Error Scoring - The quality of performance is compared to a well defined set of standards.

e. Scoring Aids - No scoring aids are used.

f. Quality Norms - See "c. Time Norms" above.

g. Emphasis in Scoring - The system emphasizes the quality of performance.

7. Observation of Clients

a. Work Performance - Work performance factors are identified in various rating scales, in the SSSQ and in the interpretive guidelines provided in the MDWES Manual.

b. Work Behaviors - Work behaviors, as well as personal social adjustment behaviors, are clearly specified and many specific work behaviors are listed. Most behaviors are defined in observable behavioral terms.

c. Recording System - The OEI and the BRS use a five-point scale to rate behaviors and performance factors; the OEI uses a frequency of occurrence scale, while the BRS is a Likert type scale. Each instrument has its own system of combining the individual ratings to form different scales.

d. Frequency of Observation - The OEI requires the recording of the presence or absence of 50 different behaviors that may manifest during a standard two hour observation period conducted each of five days. If the behavior(s) occurs and is further judged to interfere with productivity, personal adjustment or work performance of others, it is rated.

8. Reporting

a. Forms - Standardized forms are included for the assessment of many of the motor tasks, behavorial observations, summary forms, and a profile.

b. Final Report Format - The standard format includes a profile of all results together with recommendations for appropriate training, work placement, educational placement, or treatment planning. The nature of the recommendation depends on the specific use of the system, the discipline of the evaluator, and the specific questions asked by the referring party. The MDWES manual contains an example of a final report for numerous types of disabilities. These numerous examples can be of considerable help when writing reports.

9. Utility

a. Vocational Exploration - The formalized assessment procedures required for the first three factors offer almost no chance for client vocational exploration. The observation period either in a sheltered workshop or on a job site could provide chances for exploration, but this depends on the program of each facility.

b. Vocational Recommendations - The system assesses the client's ability to function in one of the five following vocational program areas: day-care work activities, extended sheltered employment, transitional training, and community employment. The system also provides guidelines for assessing the client's potential functioning in one of five living programs: institutional, intermediate care, group home, halfway house, and community independent living. Examples of final reports for work, educational, and clinical uses are provided in the various manuals. Emphasis is on training, placement, educational, and vocational development.

c. Counselor Utilization - The system is designed for disability determination which includes a description of assets, functional limitations, and adaptive capacities. The system is aimed at providing counselor information and counselor involvement is recommended.

10. Training in the System

a. Training Required - A written commitment to pursue training is prerequisite to purchase.

b. Training Available - Basic training is available in Work Evaluation, Neuropsychological, and Psychoeducational uses of the MDWES. Workshops are held where need indicates, as well as in Dallas, Texas at the MDWES administrative office. Advanced training is also available on a periodic basis.

c. Duration - Each training session takes three days.

d. Follow-up - No follow-up or site visits are required. They are however, recommended by the developer for maximum use of the system.

11. Technical Considerations

a. Norm Base - Norms for the WAIS, Stanford-Binet, PPVT, MAND, and HVDT involve 2,000 or more observations each. Norms for the OEI, BRS, and SSSQ have been obtained on more than 500 disabled adults each. The original normative sample for the entire system in work evaluation as well as the HMMT was 200. Additional samples have extended this number considerably. Profile revisions occur periodically to reflect additional norms. Adult norms on the deaf, blind, and aged populations are now available on the HVDT, HMMT, and MAND. Pertinent empirical and statistical characteristics of the various norm groups are given in the manuals and in research publications.

b. Reliability - The results of several reliability studies are presented in the various manuals. Experimental methods are for the most part clearly described. Most data are presented in terms of test-retest reliability coefficients and standard error of measurements. All reliability estimates, except the PPVT, are in the high .80's and .90's.

c. Validity - A variety of validity data are presented for separate parts of the system as well as for the entire system. The data presented covers mostly construct and predictive validity. The MDWES has been subjected to several studies (see references) which have demonstrated its usefulness as a diagnostic instrument.

12. Reviewer's Summary and Comments - The McCarron-Dial was designed for the purpose of assessing the mentally disabled person's ability to function. It uses a combination of widely accepted individually administered psychological tests, assessments of fine and gross motor ability, and an extended period of observation. Rather than discard those tests which have proven useful, or to rely solely on performance and behavior observation, the McCarron-Dial attempts to combine them into a single prediction tool. It is encouraging to note that some detailed, well designed studies have been conducted with the MDWES. In a vocational evaluation setting, the system may achieve its best use as a preliminary assessment device for assessing general levels of functioning prior to a systematic exploration of interests and specific skills.

13. Address

McCarron-Dial Systems
P. O. Box 45628
Dallas, Texas 75245

14. Cost- The five separate kits are priced as follows:

Auxiliary Component	- $168.00
HVDT	- $296.00
MAND	- $336.00
SSSQ	- $125.00
HMMT	- $490.00

Manuals are included in the kits, however, manuals may also be purchased separately.

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Sigelman, C. K., Morris, B. S. & Danley, W. E., An evaluation of vocationally-related performance among low IQ clients. *Vocational Evaluation and Work Adjustment Bulletin*, 1979, *12*(1), 22-26.

MICRO-TOWER

1. Development

   a. Sponsor - The system was developed by the ICD Rehabilitation and Research Center. However, support was obtained from the HEW Rehabilitation Services Administration to collect normative data.

   b. Target Group - The system was primarily aimed at a general rehabilitation population, but it can also be used with special education students, the disadvantaged, and adult offenders. Although not specifically designed for mentally retarded persons, it can also be used with educable mentally retarded persons. The Micro-TOWER is not intended for use with persons who are either above average in intelligence or with persons who are trainable mentally retarded.

   c. Basis of the System - The system is basically a group aptitude test that uses work sample methodology to measure seven aptitudes as defined by the third edition of the Dictionary of Occupational Titles and the General Aptitude Test Battery (GATB). The statistical basis are studies on the factor analysis of several work samples and concurrent validity studies.

2. Organization

   a. Name and Number of Work Samples - The system contains 13 work samples, which measure eight specific aptitudes, plus General Learning Ability or G. The work samples are, however, organized into five major groups of what can be thought of as second order factors. The primary aptitude(s) and the DOT/GATB abbreviation for each work sample are given in the parentheses:

      (1) Motor - Electronic Connector Assembly (F-Finger dexterity); Bottle Capping and Packing (M-manual dexterity); and Lamp Assembly (K-motor coordination).
      (2) Spatial - Blueprint Reading (S-spatial reasoning); and Graphics Illustration (S-spatial reasoning; K-motor coordination),
      (3) Clerical Perception - Filing (Q-clerical perception; K-motor coordination); Mail Sorting (Q-clerical perception; M-manual dexterity); Zip Coding (Q-clerical perception); and Record Checking (Q-clerical perception).
      (4) Numerical - Making Change (N-numerical reasoning); and Payroll Computation (N-numerical reasoning).

(5) Verbal - Want Ads Comprehension (V-verbal comprehension); and Message Taking (V-verbal comprehension).

It must be noted that four work samples (Want Ads, Comprehension, Zip Coding, Blueprint Reading, and Payroll Computation) have alternate forms to prevent cheating during administration and for possible use during retesting.

b. Grouping of Work Samples - The work samples are grouped according to the five aptitude areas listed above.

c. Manual - The system contains several manuals. A general administration and scoring manual, a manual for the group discussion program, a separate manual for each work sample, a technical manual, and an inventory manual. Each of thirteen work sample manuals contains the following: description, materials, setup, administration, scoring, and sample forms. All manuals are well written and detailed.

3. Physical Aspects

a. Packaging of the Work Samples - All work samples are individually packaged; no parts are used by more than one work sample.

b. Durability - The hardware is durable and because the system uses little complex equipment, minimal equipment replacement can be expected.

c. Expendable Supplies - Except for wire in the Lamp Assembly Work Sample, the various paper forms are the only expendable supplies.

d. Replacement - Forms can be ordered from Micro-TOWER or locally duplicated. The cassette administration tapes, of course, must be ordered from the distributor.

4. Work Evaluation Process

a. Preliminary Screening - No preliminary screening is required prior to the administration of Micro-TOWER. The manual states, however, that a period of general orientation to the system should be given prior to work sample administration.

b. Sequence of Work Sample Administration - The manual contains several suggested schedules for administration of the work samples and for group discussion. These schedules are only suggestions and the work samples do not have to be given in any set sequence. However, because the Want Ads Comprehension Work Sample tests the ability to read and understand English, it is usually first. Within each work sample a carefully defined sequence is followed. All instructions to the clients are recorded on a cassette tape. The first step is the presentation of a series of occupational photos which illustrate jobs requiring the skills assessed by the work sample. Each work sample provides an untimed learning/practice period which includes taped instructions, visual illustrations, evaluator demonstrations, and an opportunity for clients to practice. During this period, the cassette tape automatically stops at preselected places so that the evaluator can give additional instructions, etc. The evaluator is also free to stop the tape at any time if additional help is needed. After this learning/practice period comes the evaluation period. Here clients work entirely on their own without any help. After completion of the task, the clients fill out a self-report form rating their interest and perceived ability.

c. Client Involvement - Micro-TOWER emphasizes client involvement. This is accomplished in several ways. Prior to administration of the work sample, occupational information is provided; during the instruction period, the evaluator stops at several points to answer questions and provide additional instructions. The practice period also permits feedback. The greatest client involvement is during the group discussion program. Here, client values, interests, needs, etc., are discussed. Suggested activities (e.g., job values, lifelines, choose your supervisor) are provided in a separate manual. Clients also receive formal feedback of their performances on the work samples.

d. Evaluation Setting - The evaluation setting could best be described as a combination of a formal testing situation and a group counseling environment. The Micro-TOWER is best administered in a room that is separate from the rest of the evaluation unit; a "U" shaped table arrangement is suggested. These factors add to the formal testing atmosphere.

e. Time to Complete the Entire System - Total testing time is about 15 hours; if group discussions are included, the total evaluation takes from 19 to 20 hours. Depending on what schedule is used, the battery can be administered in between three and five days. The manual contains several suggested schedules which vary in the number of hours per day that the work samples are administered and in the presence and duration of the group discussion periods.

5. Administration

a. Procedures - General administration procedures are described in the over-all manual. The specific manual on each work sample contains detailed instructions on materials, layout, administration, scoring criteria, etc. All procedures are thoroughly defined.

b. Method of Instruction Giving - Instructions are given by several methods. Each work sample begins with a series of large photographs showing jobs requiring skills related to the work sample. The major instructional method, however, is a separate audio-cassette tape for each work sample which is coordinated with the evaluator's demonstrations. This tape is programmed to stop at certain critical points so that the evaluator can provide help, give additional explanations, or check the results of the practice exercises. The system emphasizes standardized instructions and timing; it uses the audiotape as the major means of insuring standardization. No written instructional materials are used. However, to complete some of the verbal and clerical tasks, a third to fourth grade reading level is required. In summary, there are five steps in each work sample: (1) occupational orientation, (2) basic instructions, (3) practice period, (4) timed evaluation, and (5) completion of self-evaluation.

c. Separation of Learning/Performance - The system places a great deal of emphasis on separation of learning from performance. Each work sample contains a practice period during which the clients must reach certain informal criteria. The evaluation period is timed and is only begun once the clients have understood and practiced the task.

d. Providing Assistance to the Client - Extensive assistance is provided during the learning/practice period. None is given during the actual evaluation period.

e. Repeating Work Samples - The manual contains no instructions or guidelines for repeating work samples. The only reference to readministration is made in regard to the use of alternate forms for four work samples.

6. Scoring and Norms

a. Timing - The evaluation period on each work sample is timed through the use of the cassette tape. The tape tells the clients to "begin," then runs through a number of minutes of blank tape and then tells the client to "stop." This procedure is to insure accurate timing.

b. Timing Interval - Timing is for a specified period within each work sample. Clients do not continue until they have completed the task.

c. Time Norms - No time norms are used in this system. The score for each work sample is the number of correct responses; report forms also provide space for recording the number attempted.

d. Error Scoring - A separate form is used for each work sample to score the number of correct responses, pieces completed, etc. The entire product is scored for each work sample; there are no random checks. The raw scores for each work sample are recorded on the "Summary of Work Sample Performance" sheet. Quality standards are carefully defined.

e. Scoring Aids - Some use is made of scoring aids.

f. Quality Norms - The raw scores for each work sample are compared to the desired norm group. A scale is used to convert the scores into one of five possible ratings. These ratings are based on percentile norms (which are given in the technical manual), one rating for each 20 percentile points. Thus, a very high rating means that the client scored above the 81st percentile. Norms are available for 19 different groups.

g. Emphasis in Scoring - The emphasis is on the quality of work produced within a specified time period.

7. Observation of Clients

a. Work Performance - No specific work performance factors are defined in the manual or listed on the "Behavorial Observations" form. For each work sample there is a space for the evaluator to record general comments; there are no suggestions in the manual as to what these should cover.

b. Work Behaviors - Only five work behaviors (i.e., understanding instructions, attention span, work attitude/motivation, need for individualized help, and efficiency) are listed on the "Behavior Observations" form; these are not defined in behavorial terms. This form also includes a section on "general behavior" containing items like appearance, physical problems and self-image. The evaluator is to make short notes for all of the "behaviors" listed on this form.

c. Recording System - No rating system is used for any of the items on the "Behavorial Observations" form. However, a six-point scale is used for general and work behaviors on the Summary Report Form.

d. Frequency of Observation - Observations are to be made during the training phase, during the performance of the work sample, and during group discussion. While no schedule for frequency is specified, it would appear that frequent observations are expected.

8. Reporting

a. Forms - The Micro-TOWER uses a variety of forms. This includes a raw score form for each work sample, the "Behavorial Observations" form mentioned above, a "Summary of Work Sample Performance" form, an attendance form, as well as reporting forms. The client completes a "Client Interest and Perceived Performance" form after the completion of each work sample; there is also a summary sheet for this form.

b. Final Report Format - There are three forms used for reporting. The first is a profile sheet based on percentiles that gives the client's results on each work sample on a scale from "much below average" to "much above average." The second is a narrative summary report format which may or may not include the forms mentioned under 7.a. Finally, there is a "Recommendations" form which uses a checklist format to cover topics such as special training, individual attention, and vocational recommendations. A computer printout of the percentile scores for each work sample is also available. These results are related to specific jobs in the fourth edition of the DOT.

9. Utility

a. Vocational Exploration - The information given at the beginning of each work sample is designed to make clients aware of what jobs are related to the aptitude(s) being measured by the work sample. Many of the topics covered in the group discussions center on relating personal needs to job demands and occupational interests.

b. Vocational Recommendations - The system relates aptitudes to Worker Trait Groups that require aptitude patterns similar to those of the client. Thus, in making recommendations, the evaluator would match client's aptitudes with those required by the Worker Trait Groups. This process would be further broken down according to interests, interpretations from behavior observations, and the results of group discussions. These recommendations would be written in narrative form in the narrative summary report.

c. Counselor Utilization - The Micro-TOWER has two major uses. The first is to present a relatively accurate assessment of job related aptitudes in a brief period of time. The second is to be a first or screening step in an extended period of evaluation. ICD, for example, uses the Micro-TOWER as a preliminary to the more time-consuming TOWER system. (Reinert & Loeding, 1978)

10. Training in the System

a. Training Required - Although formal training is not required, it is strongly recommended.

b. Training Available - Optional training programs are available.

c. Duration - Two or three days depending upon the training option.

d. Follow-up - This information is not specified.

11. Technical Considerations

a. Norm Base - Norms are available on a total of 19 groups. Some of the major groups are: general agency rehabilitation clients, males, females, Spanish-speaking, left-handed persons, physically disabled, psychiatrically disturbed, brain damaged, cerebral palsied, students in special education, the disadvantaged, recovering drug abusers, recovering alcoholics, and adult offenders. Group sizes range from 40 to over 1300. Most sample characteristics are adequately described. Purchasers of the system can receive help from ICD in developing local norms. No employed worker norms or industrial standards are used.

b. Reliability - The Technical Manual provides data on the reliability of the Micro-TOWER work samples. The coefficients range from .74 to .97. The data was based on test-retest, alternate forms, and internal consistency estimates. These estimates are very adequate.

c. Validity - Although a factor analysis revealed a large general factor, there was also evidence for grouping the work samples into the five aptitude areas. The construct validity of the work sample battery is supported by examination of the intercorrelations of the Micro-TOWER work samples. Correlations are also available with the factors from the General Aptitude Test Battery (GATB).

All data are reported in the Technical Manual. One study providing positive evidence of Micro-TOWER's use in decision-making compared the recommendations made after a one week evaluation with Micro-TOWER to the recommendations made after four additional weeks in TOWER. There was a 74% agreement on vocational recommendations, suggesting that decisions can be reached in a much shorter time for many individuals. (Reinert and Loeding, 1978)

12. Reviewer's Summary and Comments - Micro-TOWER may best be described as a group aptitude battery that uses work sampling techniques as the assessment method. The system claims to measure seven of the nine aptitudes that are used in the Worker Trait Groups arrangement of the DOT/GATB. The system has the advantage of being group administered in a fairly short period of time, thus making maximum use of evaluator time. The system attempts to go beyond the mere assessment of aptitudes by providing occupational information and group discussion. Adequate norms are available, except for employed workers. The system generally takes a standardized, psychological test approach with emphasis on carefully controlled administration conditions, the separation of learning from performance, and the reporting of results in terms of percentiles. One of the most encouraging aspects of the Micro-TOWER is the apparent concern with continued development and refinement, as evidenced by the numerous technical articles. One major problem with the system is the lack of thorough behavioral observational materials. Another possible problem is the converse of the advantages of a group administered test - the evaluator may not be able to provide the client with the one-to-one relationship that is needed for some severely disabled persons.

13. Address

Micro-TOWER
ICD Rehabilitation and Research Center
340 East 24th Street
New York, New York 10010

14. Cost - The cost of the Micro-TOWER depends primarily upon the number of clients being tested in the group. Each client requires a complete set of equipment. An additional set of equipment is needed for the evaluator. Prices are available for group sizes from 4 to 30, for example:

Number of Persons Tested Per Group	Price
4	$ 7,943.00
7	9,023.00
10	10,103.00
20	13,703.00
30	17,303.00

The above prices include all equipment, forms to test 100 clients per work sample, one set of evaluator's equipment for each work sample, a cassette playback and a cue-stop system, table easels and photo books.

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PHILADELPHIA JEWISH EMPLOYMENT AND VOCATIONAL SERVICE
WORK SAMPLE SYSTEM
(JEVS)

1. Development

   a. Sponsor - Originally developed for the Manpower Administration of the U.S. Department of Labor for use in WIN and CEP programs, the JEVS has been refined by the Philadelphia Jewish Employment and Vocational Service.

   b. Target Group - Initially designed for the disadvantaged, the system has been marketed in the last several years as an assessment device for special needs population.

   c. Basis of the System - The Worker Trait Group (WTG) Arrangement of the third edition of the Dictionary of Occupational Titles (DOT). The philosophical basis is a trait-and-factor approach between the common aptitude and behavioral demands of the represented WTG's and related work samples. It is also related to the Guide for Occupational Exploration.

2. Organization

   a. Name and Number of Work Samples - The system contains 28 work samples arranged in ten Worker Trait Groups as follows:

      (1) Handling - Nut, Bolt, and Washer Assembly; Rubber Stamping; Washer Threading; Budgette Assembly; and Sign Making.
      (2) Sorting, Inspecting, Measuring, and Related Work - Tile Sorting; Nut Packing; and Collating Leather Samples.
      (3) Tending - Grommet Assembly.
      (4) Manipulating - Union Assembly; Belt Assembly; Ladder Assembly; and Lock Assembly.
      (5) Routine Checking and Recording - Filing by Number, and Proofreading.
      (6) Classifying, Filing, and Related Work - Filing by Three Letters; Nail and Screw Sorting; Adding Machine; Payroll Computation; and Computing Postage.
      (7) Inspecting and Stock Checking - Resistor Reading.
      (8) Craftsmanship and Related Work - Pipe Assembly.
      (9) Costuming, Tailoring, and Dressmaking - Blouse Making and Vest Making.
      (10) Drafting and Related Work - Condensing Principle.

b. Grouping of Work Samples - The work samples are organized into ten Worker Trait Groups for reporting and interpretation purposes.

c. Manual - The Work Sample Evaluator's Handbook contains detailed administration and scoring instructions as well as numerous photographs to illustrate proper setup and common errors.

3. Physical Aspects

a. Packaging of the Work Samples - Each work sample is packaged individually; no tools or parts are shared with other samples.

b. Durability - The system uses common tools and materials that should be very durable. One possible exception may be the telephone.

c. Expendable Supplies - In addition to referral, report, and other forms, the major expendable supplies are: fabric, paper pads, sheet metal, and string. While these supplies should be available locally, they can also be purchased from the developer.

d. Replacement - Most tools and equipment can be locally purchased; other items (e.g., colored chips) are available from the developer.

4. Work Evaluation Process

a. Preliminary Screening - No preliminary screening is required.

b. Sequence of Work Sample Administration - The 28 work samples are administered in order of difficulty beginning with Nuts, Bolts, and Washer Assembly and ending with Condensing Principle Drawing. If a client is obviously not able to complete the work samples at any one level, more complex work samples are usually not administered.

c. Client Involvement - Because work sample administration resembles a formal testing situation, client contact with the evaluator is minimized; feedback on performance and behavior occurs at the end of the evaluation process. However, a client orientation is given at the start of the work samples and a motivational group interview is held at the end of the first day.

d. Evaluation Setting - A realistic work atmosphere and setting are stressed in the manual.

e. Time to Complete the Entire System - The average client takes six or seven days for the 28 work samples.

5. Administration

a. Procedures - The layout is clearly described and photographs are used to insure proper setup. The materials listed for each work sample are not listed at the beginning of the instructions for that work sample. The evaluator should be provided with a list of materials for each work sample.

b. Method of Instruction Giving - Most instructions are oral and include demonstration. Reading is required of the client only when it is a requirement in the job area being sampled.

c. Separation of Learning/Performance - Most of the work samples do not have a separate practice period. Typically, the evaluator gives the instructions while providing a demonstration. The client attempts the task without a prior period of practice. There are no set criteria to be met prior to timing. Thus, there is minimal separation of learning from performance.

d. Providing Assistance to Clients - Assistance can be given after the initial instruction period; but this results in lowering the client's final score. The manual contains detailed procedures for providing assistance and describes three levels of helping. Each level and each type are clearly defined. This emphasis of the analysis of the type of assistance is unique to the JEVS system.

e. Repeating Work Samples - Re-administration is not recommended because it invalidates results.

6. Scoring and Norms

a. Timing - A time clock is used to stamp the starting and stopping time for each work sample. A separate time stamp slip is used for each work sample.

b. Timing Interval - The evaluator punches the time clock after instructions are given, and the client punches the clock when the work sample is completed.

c. Time Norms - Time results are rated on a three-point scale based on the number of minutes to completion. The scale is taken from percentile scores.

d. Error Scoring - Most work samples use a random check of items that are compared to carefully defined scoring criteria; many use photographs to illustrate quality standards. Assistance points are also incorporated into the error scoring procedures.

e. Scoring Aids - Minimal use is made of scoring aids.

f. Quality Norms - Most work samples use a three-point rating scale based on the number of counted errors; others use a correct-incorrect dichotomy.

g. Emphasis in Scoring - Time and quality are given equal weight.

7. Observation of Clients

a. Work Performance - Sixteen specific factors (e.g., size discrimination, form perception) and four more general factors (e.g., accuracy, neatness) are specified for the system; each work sample has certain factors listed that are to be observed. The system stresses the recording of accurate behavioral observations.

b. Work Behaviors - The system carefully lists and defines many work related behaviors that are to be carefully observed. For example, in writing observations about communication, articulation, tone of voice, and grammatical usage are to be noted. Some other behaviors are cooperativeness with co-workers and supervisors, reaction to criticism, and frustration tolerance.

c. Recording Systems - Many of the work performance factors are rated on a three-point scale, with all ratings clearly defined and illustrated.

d. Frequency of Observation - The system uses extensive observations. Observation of defined work factors is required for each work sample; these are summarized daily.

8. Reporting

a. Forms - Standardized forms are included for: reporting the results of each work sample, daily observation summary, feedback interview and a final report.

b. Final Report Format - The well organized standardized format includes the ranking of work sample performance, recommended Worker Trait Groups and rationale, and extensive written comments on performance and behavior.

9. Utility

a. Vocational Exploration - Client vocational exploration is seriously limited by two factors: (1) many of the work samples tend to be abstract, and (2) there is no orientation relating the work samples to jobs.

b. Vocational Recommendations - The final report has a space for two Worker Trait Group Arrangements that are suggested for additional planning. The recommendations are highly related to the third edition of the DOT and are geared for both training and job placement.

c. Counselor Utilization - The system and the final report are orientated toward the counselor; however, counselor familiarity with the DOT is necessary for optimal counselor use.

10. Training Required

a. Training Required - Yes

b. Training Available - Yes

c. Duration - One week; usually held in Philadelphia. Regional training is available under certain conditions.

d. Follow-up - One technical assistance visit is made to assist with the establishment of the system and the maintenance of standardized procedures.

11. Technical Consideration

a. Norm Base - The system was renormed in 1975 on a total population of over 1100 clients in 32 facilities throughout the U.S. Time and quality norms are reported for the total sample as well as separate norms by sex, and for different client groups, vocational rehabilitation, manpower, goodwill, schools, and special schools for the mentally retarded. The norms are given in the 1-2-3 ratings only; no means, standard deviations or percentile cutoffs are given. Thus, the user has no idea of what the distribution is. Sample characteristics are not adequately described. Two articles by Flenniken (1974; 1975) have provided basic research on the rating systems used for time and quality norms.

b. Reliability - No published data are available.

c. Validity - Although the initial study of the system gave favorable evidence, results of studies done by the U.S. Department of Labor have not been released to the public. Research by Nadolsky (1973) concludes that the system is valid for evaluation of immediate employment potential. There are no recent data available on validation.

12. Reviewer's Summary and Comments - The JEVS System is a highly standardized and well integrated procedure for client evaluation based on ten of the DOT Worker Trait Groups. The strongest points of the system are its stress upon careful observation and accurate recording of work behaviors and performance factors. The use of a trait-and-factor approach ties in well with the assessment of specific abilities. The major problems with the system appear to be the abstract nature of many of the work samples, which hinders vocational exploration, limited evaluation feedback to the client, and the lack of job information presented to the client. The system is best used when a thorough evaluation of the client's potential is desired.

13. Address

Vocational Research Institute
Jewish Employment and Vocational Service
1700 Sansom Street, 9th Floor
Philadelphia, Pennsylvania 19103

14. Cost - $7,975.00 includes all work samples and forms, shipping, tuition for training one person in Philadelphia and one on-site visit by JEVS staff. The cost of transportation and living expenses for the person to be trained and for the JEVS staff for the one on-site visit are not included in the price.

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VALPAR COMPONENT WORK SAMPLE SERIES
(VALPAR)

1. Development

   a. Sponsor - The work samples were developed or modified by the Valpar Corporation.

   b. Target Group - The work samples were originally intended for use with the general population but have been used extensively with industrially injured workers. The manuals do not contain a statement that the work samples are designed to serve any specific population, it can be assumed that the Valpar can be used with a wide variety of client groups. Modifications are available for Valpar 1, 2, 3, 4, 7, 8, 9, and 10 for use with the visually handicapped. Videotapes and signed administration instructions are available for deaf persons on Valpar 1 to 16, except 14.

   c. Basis of the System - According to the developers, the work samples are based on a trait-and-factor approach taken from job analysis. The manual for each work sample relates that work sample to several Worker Trait Groups Arrangement as well as specific occupations.

2. Organization

   a. Name and Number of Work Samples - At present there are 16 work samples contained in the series:

      (1) Small Tools (Mechanical); (2) Size Discrimination; (3) Numerical Sorting; (4) Upper Extremity Range of Motion; (5) Clerical Comprehension and Aptitude; (6) Independent Problem Solving; (7) Multi-Level Sorting; (8) Simulated Assembly; (9) Whole Body Range of Motion; (10) Tri-Level Measurement; (11) Eye-Hand-Foot Coordination; (12) Soldering and Inspection (Electronics); (13) Money-Handling; (14) Integrated Peer Performance; (15) Electrical Circuitry and Print Reading; and (16) Drafting.

   b. Grouping of Work Samples - The work samples were developed and are intended for use as individual components and are not grouped as an evaluation system.

   c. Manual - A separate manual is used for each work sample. Each contains sections on purpose, job classifications, work sample description, general administration and scoring, client instructions, rating directions, and normative data. A separate Evaluator's Manual contains sections on scoring norms for each work sample as well as descriptions of the norm groups and methods. Most material is detailed and easy to follow.

3. Physical Aspects

a. Packaging of the Work Samples - All work samples are packaged separately and are self-contained. Most of the work samples have lockable cases.

b. Durability - Most components are well-constructed and durable, requiring little or no maintenance. One exception may be the Money Changing work sample where problems with the dial may occur.

c. Expendable Supplies - Most of the Valpar work samples require no expendable supplies. The few that do use mostly paper forms.

d. Replacement - All replacement parts can be ordered from Valpar. Forms may be reproduced locally or ordered from Valpar.

4. Work Evaluation Process

a. Preliminary Screening - The work samples do not require preliminary screening.

b. Sequence of Work Sample Administration - The order and the number of work samples to be given is left to the discretion of the evaluator. It must be remembered that the Valpar is a group of independent work samples and not a system.

c. Client Involvement - Because work sample administration resembles a formal testing situation, client involvement is minimal; feedback on performance is left up to the discretion of the facility and individual evaluator.

d. Evaluation Setting - While the setting is not specified, the content of most of the work samples as well as the instructions result in the creation of a formal testing situation.

e. Time to Complete Entire System - It is estimated by the reviewer that most work samples can be completed in one hour or less. The drafting, Integrated Peer Performance and Clerical Comprehension and Aptitude would take well over one hour to administer.

5. Administration

a. Procedures - The materials required, evaluator instructions, and the layout are clearly described in the manual; detailed illustrations of the work sample are used to insure accuracy. All work samples recycle themselves so that they are ready for the next administration. Thus, little evaluation time is spent in disassembling completed tasks.

b. Method of Instruction Giving - A combination of oral instructions with accompanying demonstrations is used by the evaluator to administer most work samples. Instructions are read verbatum from the manuals. In the Clerical Comprehension and Aptitude and the Money Handling Work Sample, the client is required to read instructional and testing materials.

c. Separation of Learning/Performance - None of the Valpar work samples allow for a formal practice period during which time the client must reach an established criteria. Thus, there are no procedures to separate learning from performance.

d. Providing Assistance to the Client - The evaluator is encouraged to insure that the client has a thorough understanding of the task before beginning timing. The manuals do not specify what (if any) assistance may be given to the client after timing has started.

e. Repeating Work Samples - Re-administration is encouraged if desired by the evaluator.

6. Scoring and Norms

a. Timing - The evaluator times the client. On some work samples (e.g., Clerical Comprehension and Aptitude), where there are several distinct tasks, each task is timed separately. The disassembly of many work samples is also timed. The manuals are specific as to when timing should begin and end.

b. Timing Interval - Timing begins after the instructions have been given and ends when the task is completed. There are no cutoffs in terms of time-to-completion, except in Simulated Assembly.

c. Time Norms - The completion time in seconds is recorded for each portion of all work samples. The total time is converted into percentiles at 5% intervals; MTM standards also use percentiles as a conversion method.

d. Error Scoring - Errors are well defined; the number of errors is recorded for each part of the sample and totaled. Total errors are converted to a percentile score. The Valpar also uses a performance percentile score which is a combination of time and error scores. Where appropriate, there are MTM error norms for all work samples.

e. Scoring Aids - Some use is made of scoring aids.

f. Quality Norms - Separate quality norms are used; errors are converted to a percentile form at 5% intervals.

g. Emphasis in Scoring - The emphasis appears to be on the performance percentile score, which is weighed in combination of time and error scores. This total score appears to place a somewhat greater emphasis on the time scores.

7. Observation of Clients

a. Work Performance - No work factors are specified for individual work samples.

b. Work Behaviors - The same 17 worker characteristics (e.g., ability to work alone; ability to respond to change; ability to communicate; ability to make decisions) are defined in each work sample manual; there are no behaviors that are to be observed for each separate work sample. Most of these characteristics are not clearly defined and all require subjectivity on the part of the evaluator. Evaluators are instructed to rate only those characteristics "which are applicable to the client."

c. Recording System - The evaluator uses a five-point scale to rate clients on each of the 17 worker characteristics.

d. Frequency of Observation - Frequency of observation is not specified; however, frequent evaluator contact is required on many work samples due to the administration and scoring procedure.

8. Reporting

a. Forms - A separate standard form is used for each work sample for recording scoring information and rating worker characteristics. Body position charts are included with the Upper Body Range of Motion and Whole Body Range of Motion work samples for recording pain and fatigue.

b. Final Report Format - Because the work samples are not part of a unified system, no information or recommendations are given for reporting results in a unified manner.

9. Utility

a. Vocational Exploration - There is limited opportunity for vocational exploration due to the abstract nature of some of the work sample.

b. Vocational Recommendations - Because these are individual components and not a system evaluation, vocational recommendations cannot be made on the basis of one work sample. The use of the Valpar work samples for making vocational recommendations largely depends upon their use by the individual evaluation unit.

c. Counselor Utilization - Because the system uses the purchasing facility's report format, counselor utilization cannot be specified.

10. Training in the System

a. Training Required - Training is not required as a condition of purchase.

b. Training Available - Training is available from the Valpar Corporation.

c. Duration - This duration depends upon the needs of the evaluator.

d. Follow-up - Follow-up after training is available on a consultation basis.

11. Technical Considerations

a. Norms - Each of the work samples were normed on the following groups: (1) Two groups of mentally retarded persons; (2) Air Force enlisted personnel; (3) employed workers; (4) deaf persons; (5) skill center trainees and (6) community colleges. Sample sizes for each group are about N=50. All samples are clearly described. Means and standard deviations are given for time, error, and performance scores for each group. Results are given in percentile. Methods-Times-Measurement (MTM) standards (or norms) were developed for each work sample.

b. Reliability - The test-retest reliability for each part of each work sample is given. The standard error of measurement was also computed. The reliability coefficients are generally very high. Because the methods used to gather and analyze the data are not given, no assessment can be made about the meaning of these data.

c. Validity - Each manual contains short descriptions of the different types of validity. However, no data are available.

12. Reviewers Summary and Comments - The Valpar Component Work Sample Series currently consists of sixteen individual work samples which are physically well designed and constructed. They are appealing to clients and lend themselves to easy administration and scoring. Individual work samples can be easily incorporated into an existing evaluation program. Because these individual work samples can be purchased as needed by facilities, there are no unified final report forms, and other aspects of an integrated system are lacking. The

major problem with the Valpar is in the area of relationship to jobs. According to the manuals, each component is keyed to a number of specific occupations as well as worker trait groups. However, the manuals offer no convincing evidence that, for example, one work sample could be related to ten Worker Trait Groups.

13. *Address*

Valpar Corporation
3801 East 34th Street
Tucson, Arizona 85713

14. *Cost* - Individual work samples range from $495.00 to $990.00. Any number of work samples can be purchased.

15. *References*

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VOCATIONAL EVALUATION SYSTEM
(SINGER)

1. Development

   a. Sponsor - The system was developed by the Singer Educational Division.

   b. Target Group - According to the manual, "The VES is primarily intended for special needs populations (e.g., socially and educationally disadvantaged, mildly retarded, physically handicapped) but may also be used with essentially normal populations. Those special needs groups who have limited reading ability, test poorly, and have a lack of occupational experiences . . ." Thus, it appears that the Singer developers feel the system could be used with a wide range of rehabilitation, educational and manpower populations.

   c. Basis of the System - The work samples within the system are based on a group of tasks contained in closely related jobs. The basis is a combination of job analysis procedures and the job descriptions contained in the third edition of the Dictionary of Occupational Titles.

2. Organization

   a. Name and Number of Work Samples - Presently the following 25 work stations are available:

   (1) Sample Making; (2) Bench Assembly; (3) Drafting: (4) Electrical Wiring: (5) Plumbing and Pipe Fitting; (6) Woodworking; (7) Air Conditioning and Refrigeration; (8) Sales Processing; (9) Needle Trades; (10) Masonry; (11) Sheet Metal Working; (12) Cooking and Baking; (13) Small Engine Service; (14) Medical Service; (15) Cosmetology; (16) Data Calculation and Recording, (17) Soil Testing, (18) Photo Lab Technician; (19) Production Machine Operating; (20) Household and Industrial Wiring; (21) Filing, Shipping and Receiving; (22) Packaging and Materials Handling; (23) Electronics Assembly; (24) Welding and Brazing; (25) Office Services.

   b. Grouping of Work Samples - Each work station is independent.

c. Manual - The Singer manual contains two basic sections. First, the technical section contains data on reading level, a job-task matrix, job analysis, and norms for each work sample. Second, the administrative section provides general information on client behavior, and how to complete all of the forms used. The administration section for each sample contains the following topics: tools and materials, set-up and maintenance, administration, scoring, and quality standards. The manual is unusually thorough and very well organized.

3. Physical Aspects

a. Packaging of the Work Samples - Each work station is self-contained in a carrel that is closed and locked when not in use. Some larger pieces of equipment such as a box-and-pan break and microwave oven are located outside of the carrel.

b. Durability - Because the Singer stations use fairly sophisticated tools and equipment, it is expected that there would be some problems with durability. The problems encountered with the early auto-vance (i.e., cassette tape/film strip projector) units sent have been largely solved in the most recent models.

c. Expendable Supplies - Many of the stations use a considerable amount of expendable items. For example, the Sheet Metal Working station requires two fairly large squares of metal, hinges, a latch and poprivets. Other stations require wood, wire, fabric, and baking ingredients. Based on Singer price lists of January 1980, the average price of expendable supplies is $2.02 per job sample. The range is between $0.18 and $8.66.

d. Replacement - All expendable supplies as well as most of the tools can be locally obtained. Other parts can be ordered from Singer.

4. Work Evaluation Process

a. Preliminary Screening - No preliminary screening is required.

b. Sequence of Work Sample Administration - The order and the number of work stations given is left to the discretion of the evaluator.

c. Client Involvement - The client is involved in the evaluation process through a series of self-ratings on interest and performance. Due to the frequent evaluator checkpoints in each work sample, the possibility for client contact with the evaluator is high. The manual does not specify if formal feedback is to be given to the client at the end of the evaluation process.

d. Evaluation Setting - The use of the carrels and audiovisual instructions could not help but to create a school-like atmosphere.

e. Time to Complete the Entire System - The manual states that "a general Rule of Thumb is to allow two to two and one-half hours per job sample." Because any number of stations may be administered, no realistic estimates on the length of time to complete the total system can be given.

5. Administration

a. Procedures - The tools and materials needed as well as setup and maintenance are given in the manual for each work station. All client instructions are given on auto-vance equipment.

b. Method of Instruction Giving - All instructions are given using an audio-cassette tape and filmstrip format with the client controlling the rate of advancement. Typically, the client hears several frames of instruction, then turns off the equipment, performs a specific task and then calls the evaluator to check that task. The linear programmed material is occasionally supplemented with written material. Additional evaluator instructions are discouraged because they would interfere with the standardization; evaluators are to record any type of re-instruction.

c. Separation of Learning/Performance - There is very little separation of learning from performance in the Singer system. Most client instructions do not require a criteria to be reached before going on to repeat the task on a timed basis. On four of the stations, the client completes a product, has it checked by the evaluator, and then performs the task again without instructions on a speeded basis.

d. Providing Assistance to the Client - The evaluator is encouraged to make sure that the client knows how to do the task before he begins to work; checkpoints are provided in the audiovisual material so that the client can ask the evaluator to review his progress before continuing.

e. Repeating Work Samples - Work samples may be repeated at the "request of the client who expresses a desire to try to improve his or her performance." The evaluator may have a work station repeated to assess changes in performance.

6. Scoring and Norms

a. Timing - The client is timed by the evaluator. For each work station, the manual contains instructions as the frame number(s) where the evaluator is to start and stop timing.

b. Timing Interval - The interval varies with each work sample and is specified for each work sample in the manual. In many work samples, there are several timing intervals.

c. Times Norms - All norms are based on the number of minutes to complete the work sample. Client and/or employed worker norms are reported using a five-point rating scale based on the time score distribution for each work sample. Methods-Time-Measurement (MTM) norms are reported in 10% intervals, with industrial normal being 100%.

d. Error Scoring - All errors are carefully defined and each item (or the entire finished product) is checked against the criteria. In using the MTM standards for quality, each error is classified as major, intermediate, or minor.

e. Scoring Aids - Some use is made of scoring aids.

f. Quality Norms - Client norms are reported using a five-point rating scale. Industrial norms and MTM quality norms are based on 100% with a specified number of points subtracted for each of three levels of errors.

g. Emphasis in Scoring - Time and error are given equal weight.

7. Observation of Clients

a. Work Performance - Twenty work factors (e.g., attention span, form discrimination, neatness and use of hand tools) are defined. Each work sample has a separate Task Observation Record which contains specific factors for each task. For example, in the part of the Drafting Work Sample that "compares drawings with models provided," the evaluator is to observe "following a model, inspection and checking, and retention."

b. Work Behaviors - No work behaviors are listed.

c. Recording System - Work performance factors are listed on the Task Observation Record; the evaluator does not rate behaviors, he records the observations. A Work Activity Rating Form is used by the client to rate his/her interest in a work station before and after performing the tasks; the client and the evaluator also rate the client's performance on a five-point scale at the end of the work sample. This rating is general and does not include separate ratings for work factors.

d. Frequency of Observation - The manual does not specify the frequency of observation. It must be noted that many evaluators find that the sides and back of the carrel make observations difficult.

8. Reporting

a. Forms - Forms include the Task Observation Record, Work Activity Rating Form, MTM Rating Form, Industrial Rating Form and a summary sheet for time and quality scores.

b. Final Report Format - While the manual does not contain any recommended final report format, it does contain a description of what should be contained in a final report.

9. Utility

a. Vocational Exploration - An extensive amount of occupational information is provided to the client; each work sample contains an introduction to some jobs related to the work sample. Many schools and facilities use the Singer primarily as an interest and career exploration device.

b. Vocational Recommendations - Because the system contains no final report format, it is difficult to judge the type and quality of vocational recommendations. These would depend upon the user.

c. Counselor Utilization - For the reason given above, this aspect cannot be accurately judged.

10. Training in the System

a. Training Required - No

b. Training Available - Yes

c. Duration - Two day, one-week or two-week VES workshops are offered on a regional level on a fee basis.

d. Follow-up - Singer regional managers conduct follow-up visits without charge. Technical consultations may be scheduled through the home office.

11. Technical Considerations

a. Norm Base - Each Singer unit contains three types of norms: client norms, employed worker norms, and MTM. All norm groups are of adequate size and sample characteristics are thoroughly described.

b. Reliability - A study by Cohen and Drugo (1976) reported test-retest reliability coefficients of .61 and .71 for an EMR population. These correlations are moderately reliable.

c. Validity - The Singer bases its validity on several sources. First, the content validity of the job-task matrix and of the job analysis for each work sample. The job-task matrix relates specific tasks to specific jobs and identifies which tasks are included in the work sample. The average work station covers about 65% of the tasks given in the matrix. Second, two predictive studies (Gannaway and Sink, 1972; Monroe County, n.d.) attempted to relate work sample scores with success in jobs related to the work samples. While these studies have methodological problems, the significant results are encouraging. Third, a study by Sink, et al, (1976) revealed that the system encouraged users to seek additional occupational information.

12. Reviewer's Summary and Comments - In a review of the Singer system published in an earlier version of this publication, the system was criticized for its inadequate manual. The most recent Singer manual corrects for the earlier lack of thoroughness and goes on to provide almost all the data that the evaluator would need. The process of developing MTM and employed worker norms is one of the strong points of the VES. Also encouraging is the publication of some basic studies on the system. Presently the system provides a measure of interest measurement and skill assessment for jobs mostly in the skilled trades and technical areas. The occupational information remains the strong point of the system. The major problems are the lack of work atmosphere, the use of expendable supplies, and the possible need for a superstructure to integrate the units into a functional whole.

13. Address

Singer Educational Division
Career Systems
80 Commerce Drive
Rochester, New York 14623

14. Cost - As of January 1980, cost per work station ranges from $1,150.00 to $2,190.00 with the average cost being $1,544.00. The price includes shipping and enough supplies to evaluate approximately 30 people. Singer usually will not sell less than ten work stations initially.

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SOME CONSIDERATIONS FOR THE SELECTION OF A COMMERCIAL VOCATIONAL EVALUATION SYSTEM

Over the years many people have contacted the MDC for advice concerning the most appropriate vocational evaluation system to purchase for their facility. This section was prepared in response to these requests and will outline some of the factors to be considered prior to purchasing a commercial vocational evaluation system. The evaluator has at his disposal many tools for assessing client potential (Task Force No. 2, 1975). These tools fall within one of the following four categories:

1. On-the-Job Evaluations - These are situations in which the client is assessed in one or more of a variety of real work situations including: job site situations in industry, trial training evaluation in a training program, and simulated job stations within the facility.

2. Sheltered Employment - This offers the evaluator an opportunity for assessing the client under working conditions that should be similar to those found in competitive employment.

3. Work Samples - There are four types of work samples according to their degree of correspondence with actual jobs: actual job samples, simulated job samples, cluster trait samples, and single trait samples.

4. Psychological Tests - These include an almost endless variety of paper-and-pencil and apparatus techniques for measuring traits, abilities, and related characteristics of an individual.

Faced with the need to equip and administer a vocational evaluation unit, many untrained and inexperienced evaluators feel that the purchase of commercial evaluation battery will solve their problems. The evaluator should analyze a number of factors in deciding how to equip the evaluation unit and then carefully investigate all the tools listed in the above categories to determine the ones that will provide him with the best methods to adequately assess his clients.

The first area of consideration is the relationship between the community and the vocational evaluation unit. The evaluator must carefully investigate the range and type of jobs that are available in the local labor market. Thus, a small rural facility or a facility in a one industry community will have a narrower range of job evaluation stations than a facility in an urban area. Labor market information can be obtained through vocational surveys, local employment offices and agencies, and client placement records. Once potential employment opportunities have been determined, intelligent decisions can be made on what type of evaluation tools can best assess these demands.

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Because the evaluation outcomes may not result in immediate placement, it is also necessary to investigate the training opportunities available for clients and these should also be reflected in the selection of evaluation tools. A client's range of occupations widens and his changes for upward mobility are frequently increased as a result of training. The presence of an area vocational-technical school, private trade and business schools, on-the-job training programs, apprenticeship programs, and even higher education should be reflected in the evaluation unit. Vocational evaluation techniques covering a wide variety of occupational areas and assessing the full range of client aptitudes and interests are needed if the facility is in an area where many employment and training opportunities are available.

The second consideration is the client population. Some evaluation units must be capable of serving clients with all types of mental, physical, psychological, and cultural disabilities. Other facilities restrict themselves to serving either a single disability or a small number of disabilities. A facility dealing with many types of handicaps would generally need to have techniques covering the entire range of occupational areas and skill levels within these areas. A facility providing services to a single disability group could safely limit its evaluation areas. For example, a facility serving only mentally retarded clients could realistically avoid evaluation for occupations that require a great deal of formalized training or higher education. Some systems claim to have been designed specifically for a particular level of client functioning. When selecting evaluation tools, keep in mind the type of clients served since it would be a waste of time to assess a client for a job he could not fill because of his handicap. At the present time, all commercial vocational evaluation systems are designed for persons who can see and hear and contain no special instructions or modifications for the blind or deaf. The evaluator should be aware that he frequently will have to make modifications in commercial work samples so that they meet the special needs of his clients (Botterbusch, 1976; Dickson, 1976). In summary, if an evaluator is considering a commercial evaluation battery, he should check the battery against the needs of the client population served and then decide: (1) whether the system is designed for the target disability group(s), or (2) whether other evaluation techniques would be more appropriate.

The third area to be considered is the purpose of evaluation. Although all vocational evaluation techniques should provide career information, a particular technique may either emphasize occupational information by providing a hands-on experience or it may emphasize the assessment of present skills and aptitudes without relating it to career information. Some systems attempt to provide a thorough evaluation of the client's aptitudes and work behaviors; others provide occupational information and experience, often at the expense of a thorough ability assessment. The evaluator should check the final report format to determine exactly what information it contains; this goes a long way in determining the purpose of a particular system. The attempt to find or develop the evaluation tools that best fit the client's needs. A system should never be purchased to "fit in somewhere."

The fourth area of concern is perhaps the most basic--why even purchase a commercial evaluation system at all? All of the systems are relatively expensive; some are very expensive. None will probably meet the individual needs of a facility in terms of community jobs and training, client populations, and purpose of evaluation. A facility could develop its own evaluation unit based on job or work samples taken from local industry. This would make evaluation very realistic for the client, staff, and even for a potential employer. Additional work samples could be developed from existing subcontracts in the workshop. This method not only will assess the areas in which the client has his maximum functions and interests, but also the areas of the shop that would best fit the client. In addition, the client would receive training on the work performed in the workshop. Then, when the client is transferred from the evaluation unit, he or she will be familiar with the subcontract, which should alleviate the need for the supervisor to train the client from "scratch."

The development of a work sample is expensive in terms of staff time. In most facilities, staff are hired to provide direct client service, and to have a staff person doing developmental work reduces the time available for working with clients. Few evaluation units can afford the luxury of developmental time for staff persons. Besides the time element, development of evaluation tools demands a working knowledge of the skills required to perform jobs and to analyze tasks, of form and report design, of behavior analysis, of statistics for norms, and of industrial engineering techniques. Although these skills are becoming more and more widespread among evaluators, there are still many facilities that lack persons with these competencies. The lack of developmental time coupled with the inexperience of some evaluators is partly responsible for the increased use of commercial evaluation systems. The purchase of these systems as a matter of convenience does not necessarily imply that the systems are not useful to the evaluator.

The first decision is whether the evaluation unit is meeting client needs in terms of accurate assessment for available jobs and/or training. If needs are not being met, the second decision becomes a question of what areas of job assessment are needed for the evaluation unit. After these needs are known, a thorough review of the different evaluation techniques, commercial vocational evaluation batteries (or parts of these batteries), and other available resources should be made to determine how to best meet these needs. However, it is a common practice for many persons to want to buy a system that will give all the answers. Such a system simply does not exist. There is also the possibility of carefully selecting individual work samples from several systems and combining these into a unified system specific to the needs of the facility. To have appropriate evaluation stations, there has to be a great deal of analysis of what is to be accomplished during evaluation, the available jobs and training opportunities, the types of clients with whom you are working, and the best way to accomplish the goals of your facility. This analysis is absolutely necessary before a workable system can be developed.

The preceding points should only be used as general guidelines because each facility is unique. A critical factor in purchasing a system should be based on the knowledge of what is needed and not on the cost or attractiveness of the hardware. Usually, no one system will meet all the needs of a facility and the purchased system should be integrated with facility constructed devices, other evaluation systems, on-the-job evaluation, and psychological tests. MDC suggests that a facility obtain as much accurate information as possible about a system prior to purchase. Some sources of information are:

1. The information contained in this present publication.
2. MDC's sound/slide presentations on most evaluation systems. A brochure listing these programs is available from MDC.
3. Talk with the evaluators in other facilities who are using the system being considered and see what they think of it.
4. If possible, try out the system yourself with clients in another facility.
5. Write the system's manufacturer and obtain current information.

In conclusion, MDC cannot recommend what commercial system(s) will be best for a facility because selecting the appropriate system is (or should be) based on an accurate, realistic assessment of the unique needs of each facility.

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Outline	COATS	HESTER	McCarron-Dial
1. Development			
a. Sponsor	Prep, Inc.	Goodwill Industries of Chicago	McCarron & Dial
b. Target Group	manpower, secondary education, and rehabilitation	all intelligence levels, physically disabled	mentally retarded, learning disabilities
c. Basis of System	research studies of need areas	DOT	5 Neuropsychological factors
2. Organization			
a. Number of Work Samples	4 components - job matching, employability attitudes, work samples, and living skills	28 test scores	17
b. Grouping of Work Samples	26 work samples, each is independent	grouped into 7 factors	grouped into 5 factors
c. Manual	separate manual for each component, contains all details	contains most system details	4 manuals; very detailed
3. Physical Aspects			
a. Packaging of Work Samples	each separately packaged in a portable container	some individually packaged	5 separate brief-case-like kits
b. Durability	durable	estimate fairly durable	not applicable
c. Expendable Supplies	wood, sheet metal, wire, etc.	staples and paper	no consumable materials used
d. Replacement	supplies locally	supplies locally, parts from distributor	must be ordered from manufacturer

Micro-TOWER	JEVS	Valpar #17	TAP
ICD Rehabilitation & Research Center	U.S. Department of Labor	Valpar Corporation	Talent Assessment Programs
general rehabilitation population	initially for disadvantaged	mentally retarded	age 14 up; mental levels above trainable mentally retarded
DOT	DOT	not specified	occupational clusters
13	28	11 assessment techniques using different formats	10
5 groups of general aptitudes	10 Worker Trait Groups	5 areas	each is independent
general manual, separate manual for each work sample contains all system details	contains all system details	general manual; separate manual for each detailed	some details not provided
each work sample packaged separately	each work sample packaged separately	each of the 5 areas packaged separately	all individually packaged
durable	very durable	very durable	extremely durable
wire only	paper, fabric, string	no consumable materials	no consumable materials
all forms locally if desired	most purchased locally	forms ordered from developer or locally reproduced	locally or from distributor

Outline	COATS	HESTER	McCarron-Dial
4. Work Evaluation Process			
a. Preliminary Screening	not required	not required	client interview
b. Sequence of Administration	components and work samples may be given in any order	no specified order	in order by factors
c. Client Involvement	extensive client involvement	little during testing	encouraged
d. Evaluation Setting	classroom atmosphere	formal testing setting	formal testing setting
e. Time to Complete Entire System	52 to 93 hours	5 hours	2 weeks recommended
5. Administration			
a. Procedures	specified in detail	omits many details	specified i[illegible] detail
b. Method of Instruction Giving	audiovisual	oral and demonstration	oral and demonstration
c. Separation of Learning/Performance	very little	not applicable	not applicable
d. Providing Assistance to Client	little assistance after timing begins	no assistance after timing begins	little assistance provided
e. Repeating Work Samples	not specified	if necessary, after two weeks	if necessary

Micro-TOWER	JEVS	Valpar #17	TAP
not required	not required	not specified	not specified
discretion of evaluator	progressive from easiest to hardest	any order	8 of the work samples can be given in any order
extensive client involvement	some	considerable	not specified
combination of formal testing and counseling	realistic work setting stressed	not specified	not specified
15-20 hours	6-7 days	5½ hours	2½ hours
specified in detail	specified in detail	specified in detail	not specified in detail
audio cassette, evaluator demonstrations	oral and demonstration	oral, oral and demonstration or oral and demonstration with a sample audiovisual	oral and demonstration
stressed, almost total	minimal	minimal	some
no assistance after timing begins	assistance lowers score	not specified	none
not specified	not recommended	strongly recommended	encouraged for upgrading

Outline	COATS	HESTER	McCarron-Dial
6. Scoring and Norms			
a. Timing	evaluator times client or client times self	evaluator times client	evaluator times client
b. Timing Interval	not specified	varies with type of test	specified time limits
c. Time Norms	computer generated scores, hand scored option for work samples	no separate time norms given	some separate time norms
d. Error Scoring	compared to standards	no separate error scores given	compared to standards
e. Scoring Aids	not used	not used	not used
f. Quality Norms	skill rating	not used	combined with time norms for overall sco
g. Emphasis in Scoring	quality	time to completion or number of responses	quality
7. Observation of Clients			
a. Work Performance	no factors recorded	Because the Hester uses psychological and psychophysical tests, no behavior obvervations are made.	factors identified
b. Work Behaviors	some factors defined		clearly defined
c. Recording System	none used; number of behaviors recorded		2 separate instruments used
d. Frequency of Observation	not specified		2 hours for 5 days

Micro-TOWER	JEVS	Valpar #17	TAP
cassette tape	client uses time clock	only one time score used on entire system	evaluator times client
specified time for each work sample	from end of instructions to completion of task	preset for the one task	from end of instructions to completion of task
no time norms used	rated on 3 point scale	used only for one task	actual time recorded
number completed; pieces correct	random check, compared to standards	except for one area number of correct responses	client corrects mistakes on some tests
some use	minimal use	not used	not used
rated on 5 point scale	most rated on a 3 point scale	based on total points	combined with time norms for overall score
emphasis on quality	time and quality given equal weight	number of correct responses	time
no specified factors defined	16 specific; 4 general factors specified	no factors listed	no factors defined
5 work behaviors listed	clearly defined	some specific areas defined	no factors defined
none	3 point rating scale	3 point rating scale	no rating method used
frequent observations expected	extensive observation	not specified	not specified

Outline	COATS	HESTER	McCarron-Dial
8. Reporting			
a. Forms	standardized forms for all phases	standardized forms for all phases	standardized for all areas
b. Final Report Format	computer based printout, four page optional hand scored evaluation report	computer generated report lists specific jobs and other data	profile of results and recommendations
9. Utility			
a. Vocational Exploration	extensive occupational information given to client	little use to client	little use to client
b. Vocational Recommendations	specific jobs and groups of jobs	completely related to DOT	1 of 5 program areas are recommended
c. Counselor Utilization	designed for client self-interpretation	designed for counselor's use	disability determinati[illegible]
10. Training in the System			
a. Training Required	no	yes	yes
b.			
b. Training Available	yes	yes	yes
c. Duration	3-5 days	2 days	3 days
d. Follow-up	yes	not specified	not required

Micro-TOWER	JEVS	Valpar #17	TAP
standardized forms for all phases	standardized forms for all phases	standardized forms for recording and scoring	two standardized forms
3 separate forms used to report different results	standardized format recommends Worker Trait Groups	not used; depends upon facility	profile of results and narrative report
some direct client use	limited use	some direct client use	very limited use
related to DOT	highly related to DOT	largely dependent upon user	related to specific jobs
designed for counselor use	orientated toward counselor	results of each specific task designed for counselor usage	orientated toward counselor
no	yes	no	yes
yes	yes	yes	yes
2 or 3 days	1 week	1 day or more	1½ days
not specified	yes	as requested by user	as needed

Outline	COATS	HESTER	McCarron-Dial
11. Technical Considerations			
a. Norm Base	student norms on work samples	little information available	several groups of disabled clients
b. Reliability	data in manuals	test-retest reliabilities high	high .80's; low .90's
c. Validity	data in manuals	manual contains very little data	considerable data in manuals; separate studies in literature

Micro-TOWER	JEVS	Valpar #17	TAP
19 different norm groups	1100 clients	"research norms"	7 different norm groups
adequate data in manuals; high reliabilities	no data available	no data available	.85 coefficient of stability
construct concurrent validity reported	no recent data are available	no data available	no data available

Outline	TOWER	Valpar	Singer
1. Development			
a. Sponsor	Vocational Rehabilitation Administration	Valpar Corporation	Singer Educational Division
b. Target Group	physically and emotionally disabled	general population, industrially injured worker	special needs population
c. Basis of System	job analysis	trait and factor	groups of related jobs
2. Organization			
a. Number of Work Samples	93	16	25
b. Grouping of Work Samples	14 training areas	each is independent	each is independent
c. Manual	single manual; some details not provided	separate manual for each work sample; most material detailed	single evaluators manual; very detailed
3. Physical Aspects			
a. Packaging of Work Samples	Because ICD does not sell hardware, each facility must construct their own. This section is not relevant for TOWER.	all individually packaged	each self-contained in a carrel
b. Durability		very durable	expect some problems
c. Expendable Supplies		few consumable supplies used	wood, wire, chemicals
d. Replacement		order from developer	supplies locally or through Singer

VIEWS	VITAS	Brodhead-Garrett	WREST
Philadelphia JEVS	Manpower Administration	Brodhead-Garrett	Jastak Assoc.
mentally retarded	employment service aplicants	handicapped and disadvantaged	severely disabled - mentally and physically
DOT	DOT	not specified	not specified
16	15	18 work samples -	10
4 areas of work	15 Worker Trait Groups	Phase I - sorting, assembly, and salvage; by 3 phases	each work sample is independent
very detailed	detailed	separate manual for each phase. Phase I lacks many details	well organized manual; contains all details
most individually in portable plastic cabinets	each packaged separately	Phase I - Packaged in large wooden cabinet	system packaged in wood cabinet
very durable	very durable	very durable	durable
paper, string, fiberboard	paper, string, sheet metal	Phase I - minimal amount	mostly paper products
supplies locally; parts from developer	supplies locally; parts from developer	assumed to be from local sources	from developer

Outline	TOWER	Valpar	Singer
4. Work Evaluation Process			
a. Preliminary Screening	emphasized for planning	not required	not required
b. Sequence of Administration	progressive within areas	discretion of evaluator	discretion of evaluator
c. Client Involvement	not specified	minimal	extensive client involvement
d. Evaluation Setting	realistic work setting stressed	not specified	classroom atmosphere
e. Time to Complete Entire System	3 weeks	estimate about 1 hour per work sample	2½ hours per work sample
5. Administration			
a. Procedures	some specified in detail, except layout	specified in detail	specified in detail
b. Method of Instruction Giving	written and demonstration	oral and demonstration; some reading	audiovisual
c. Separation of Learning/Performance	not specified	none	little
d. Providing Assistance to Client	not specified	not specified	checkpoints built in
e. Repeating Work Samples	encouraged for upgrading	encouraged	at request of client

VIEWS	VITAS	Brodhead-Garrett	WREST
not required	not specified	not required	not required
progressive from least to most complex	progressive from easiest to most difficult	discretion of user	discretion of evaluator
extensive client involvement	considerable client involvement	assume fairly high degree of involvement	clients told purpose and use of results
realistic work setting stressed	realistic work setting stressed	mostly classroom	not specified
20 to 35 hours	15 hours	reviewer estimates Phase I in 1 week	1½ hours
specified in detail	specified in detail	not specified	specified in detail; can be group administered
oral & modeling, flexibility to use a variety of techniques stressed	oral & demonstration	oral & demonstration	oral & demonstration
almost total; well established criteria	no separation	some	considerable
little assistance after timing begins	minimum assistance	not specified	none given after timing starts
repeated if considered necessary	not recommended	permitted to correct excessive errors	encouraged for upgrading

Outline	TOWER	Valpar	Singer
6. Scoring and Norms			
a. Timing	evaluator times client	evaluator times client	evaluator times client
b. Timing Interval	from end of instructions to completion of task	from end of instruction to completion of task	varies with each work sample
c. Time Norms	rated on 5 point scale	actual time recorded	based on number of minutes to completion
d. Error Scoring	compared to standards	some scored separately; others combined with time scores	compared to criteria
e. Scoring Aids	extensive use	some use	some use
f. Quality Norms	rated on 5 point scale	separate norms	5 point scale or subtracted from time score
g. Emphasis in Scoring	time and quality given equal weight	weighed combination of time and errors	time and errors given equal weight
7. Observation of Clients			
a. Work Performance	only one factor defined	no factors defined	20 factors defined
b. Work Behaviors	a few listed in final report	17 factors defined	none listed
c. Recording System	5 point rating scale	5 point rating scale	none used for behaviors - records actual observations
d. Frequency of Observation	not specified; frequent observations assumed	not specified	not specified

VIEWS	VITAS	Brodhead-Garrett	WREST
evaluator times client	evaluator times client	evaluator times client	evaluator times client
after task is learned to completion	after instructions until task completed	from end of practice to completion of task	from end of instruction for a specified period of time
rated on 3 point scale; also MODAPTS	rated on 3 point scale	reported on 3 point scale	time to completion; compared to scaled scores
compared to standards	compared to standards	not specified	compared to standards
some use	no use	not used	not used
rated on 3 point scale	rated on 3 point scale	no separate quality norms	all errors totaled for a single quality score
time and errors given equal weight	time and errors given equal weight	time and quality given equal weight	time
10 factors defined	9 factors defined	no factors defined	no factors defined
clearly defined	several general factors defined	36 defined	10 defined in general terms
specific behaviors reported	specific behaviors reported	5 point scale	scale from 1 to 18

Outline	TOWER	Valpar	Singer
8. Reporting			
a. Forms	standardized form for all phases	separate form for each work sample	standardized forms for all phases
b. Final Report Format	narrative report using standardized outline and ratings	none used; independent work samples	no format given; includes description of contents
9. Utility			
a. Vocational Exploration	exposure to a variety of work areas	limited use	extensive information given to client
b. Vocational Recommendations	limited to job related to work areas	depends upon use in facility	dependent upon user
c. Counselor Utilization	orientated toward counselor	cannot be specified	dependent upon user
10. Training in the System			
a. Training Required	yes	no	no
b. Training Available	yes	yes	yes
c. Duration	3 weeks	as needed	2 day, 1 or 2 weeks
d. Follow-Up	nc	as needed	available

VIEWS	VITAS	Brodhead-Garrett	WREST
standardized forms for all phases	standardized forms used for all phases	standardized forms for recording scores and work behaviors	standardized form for recording performance
standard format containing behavior data and recommended Worker Trait Groups	standardized format; stresses Worker Trait Groups	4 page final report, topic headings	numerous examples given in manual
little use to client	little use to client	extensive, especially with Phase II	limited use
related to DOT	related to DOT & supportive services	by job area	not specified
oriented toward counselor	aimed at counselor	not specified	not specified
yes	yes	none	none
yes	yes	yes	none
1 week	1 week	2 days to 1 week	not applicable
yes	yes	as needed	not applicable

Outline	TOWER	Valpar	Singer
11. Technical Considerations			
a. Norm Base	clients	6 different norm groups: MTM norms	clients, employed workers, MTM
b. Reliability	no data available	data available; cannot be assessed	test-retest .61 and .71
c. Validity	equivocal results	no data available	mostly content

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VIEWS	VITAS	Brodhead-Garrett	WREST
452 mentally retarded MODAPTS	600 CETA clients	no data available	3 major groups; characteristics well defined
no data avaialble	no data available	no data available	test-retest coefficients in .80's and .90's
no data available	no data available	no data available	correlations between scores and supervisor's ratings .86 and .92

TESTING IN VOCATIONAL EVALUATION

Tests have long been used to identify appropriate jobs for individuals. There are thousands of tests available, and many types of tests. The purpose of this section of the manual is neither to describe all tests, nor to detail proper use of tests; instead, a brief overview of several types of tests and issues in testing will be presented. This section will provide you with an appreciation for rather than expertise in testing. Using tests appropriately depends on the user's training and experience. It is recommended that anyone who uses tests pursue formal training in test selection, administration, scoring, and interpretation.

Tests can be useful to the vocational evaluator. Previous testing results can provide background on the student's achievement progress and level in specific areas. Tests administered during the vocational evaluation can provide important data in identifying and clarifying vocational goals.

It is important to recognize the limitations and misuses of tests. Perhaps the best use of testing results can be achieved by integrating scores from all testing data into patterns. One test score alone provides little value in the decision-making process, while several measurements of the same characteristic can point to an emerging theme. It should be kept in mind that a test score is not absolute. Tests are built on statistical procedures which assume that the probability, or "odds" that a score is "true", is never perfect. Therefore, it is important to use several tests assessing the same characteristic.

CATEGORIES OF TESTS

The major categories of tests are: intelligence, interest, personality, achievement, aptitude, and special tests. For the purposes of simplification, the categories can be reduced to:

A) Intelligence/Achievement/Aptitude
B) Personality/Interest
C) Special Tests

Examples of intelligence/achievement/aptitude tests are: the Wechsler Adult Intelligence Scale, the Wide Range Achievement Test, and the General Aptitude Test Battery. These tests supposedly measure learning potential and/or achievement. However, for use in vocational evaluation, these tests can be used as guides, not only to predict individual's ability to benefit from academic coursework, but also to predict his or her ability to adapt to particular jobs.

The second category, personality/interest, is of importance to the evaluator in that the student's preference and dislikes can limit the scope of the job search. Some jobs can be eliminated from consideration on the basis of dislike: a person who dislikes high public contact will likely not be satisfied performing jobs in the field of sales. Interest surveys can be used as springboards to identify occupational areas worthy of probing during an interview. Examples of personality/interest tests are the Myers-Briggs Type Indicator and the California Occupational Preference Survey. The same information elicited by this category of tests can be gained by careful interviewing; however, a test or survey can speed the process so that interviewing time can be better spent in delving deeper into underlying attitudes and values.

the third category, special tests, often overlap with other categories. For instance, the Bennett Mechanical Comprehension Test could be classified as highly specific aptitude or achievement test. Special tests have been constructed for artistic ability, manual dexterity, clerical aptitude, musical ability, and so on. The work sample tests will be covered in more depth in the Vocational Evaluation section.

There are two basic ways of constructing the scoring systems of tests: norm referencing and criterion referencing. Norm-referenced tests yield scores which can be compared with a norm group's average score. Statistical treatments of research data in devising a norm group depend on similarity between the group and the individual. Many norm groups do not take into account individual differences, so that a test based on comparing the "normal" population with an individual confined to a wheelchair since infancy does not take into account the unique life experiences to which that person has been exposed.

Criterion-references tests are perhaps the most useful type. Either the student can or cannot perform a task within an amount of time or quality demanded by employers, for instance. If the student cannot meet the criterion of performance, it is possible to assess how the criterion could be met. Let's say, for example, the criterion of successful performance is completing ten addition problems correctly within five minutes. If the student scores 8 correct in five minutes, the evaluator can judge whether or not it is likely that, with remediation or training (and how much), the student could meet the criterion of success in that task. Other advantages are: it is not necessary to have a norm table for each disability group to be evaluated; performances which indicate mastery can be identified; task analysis is taken into account; and the test taker knows what is expected for successful performance.

Standardized tests are those whose results depend on similar methods of administration, scoring and interpreting as those under which the test was developed. It would not be appropriate for a student to be coached on the terms used in the information sub-test of the WAIS before administering that test because the results would not be valid. The use of standardized tests with persons having disabilities presents a problem for the evaluator. Should a claculator be used during a WRAT Arithmetic test for a student who has limited hand movement? This issue is covered in depth in The Use of Psychological Tests With Individuals Who Are Severely Disabled (Botterbusch, 1976) and Learning Assessment in Vocational Evaluation (McCray, 1979).

A CAUTION ABOUT USING TEST RESULTS

Again, this brief overview is not intended to prepare a professional to properly use tests. It is merely an introduction. Another caution: the value of test results lies in developing tentative patterns of data, any one piece of which cannot stand alone. The evaluator's interaction with the student is probably a richer source of data, to be supplemented by test scores. The statement that, "Because Johnny scored a 105 full-scale intelligence quotient on the WAIS, he will never benefit from a four-year college program" is unfounded, possibly damaging, and could result in legal action against the person making such a statement.

TESTS MOST COMMONLY USED IN CALIFORNIA COMMUNITY COLLEGES

The results of a survey questionnaire mailed to each of the 106 California Community Colleges in October, 1980, revealed that the most popularly used tests were (in order of highest to lowest response level):

1. I.Q. - Peabody Picture Vocabularly Test, Woodcock-Johnson Psychological/Educational Test, Wechsler Adult Intelligence Scale, Raven Progressive Matrices, and Stanford-Binet.

2. Interest/Personality - Strong-Campbell Interest Inventory, Self-Directed Search, Kuder, California Occupational Preference System, Career Assessment Inventory, Edwards Personal Preference Schedule, California Personality Inventory, Minnesota Multiphasic Personality Inventory, Myers-Briggs Type Indicator, and Sixteen Personality Factor Questionnaire.

3. Achievement - Wide-Range Achievement Test, Peabody Individual Achievement Test, General Aptitude Test Battery, Keymath Diagnostic Arithmetic Test, California Achievement Test, Adult Basic Learning Examination, and Stanford Achievement Test.

4. "Special" Tests - Bender Visual Motor Gestalt Test, Audiometer, Frostig Developmental Test of Visual Perception, Telebinocular, and G-F-W Auditory Series.

HOW TO SELECT APPROPRIATE TESTS

The particular tests acquired will be chosen on the basis of the characteristics of the population served, the amount of money available, the amount of training required to administer the test properly, the amount of time available for testing an individual, the validity and reliability of the test, plus other variables. As mentioned previously, the concept of gathering comprehensive data should be kept in mind. Job Analysis, Situational Observation and Work Samples, are some types of assessments used in vocational evaluation.

The selection of tests should include consideration of the major test classifications: personality, interest, intelligence, aptitude, achievement, and special tests. It is helpful when measuring one factor to have two tests to confirm results, or to question the results. The McCarron-Dial Work Evaluation System includes personality (the two subjective rating scales), intelligence (PPVT and WAIS), and "special tests" of neuromuscular development such as the Haptic for visual processing. Should you choose to use the MDWES, it may be necessary to acquire an interest survey or two, as well as any work samples which might be of use in your setting.

We suggest that the selection of evaluation instruments should begin with a survey of available sources of information, including tests already in use in your organization. After assessing the limits of available resources, identification of additional areas of desired information (such as eye-hand coordination, fine hand dexterity, and bimanual dexterity) can guide the investigation and choice of specific instruments.

RECOMMENDED RESOURCES

Materials Development Center, at the Stout Vocational Rehabilitation Institute, University of Wisconsin, has published many items of interest to the vocational evaluator. Among them are several concerned with assessment.

Although the reader is urged to procure the publications recommended at the conclusion of this chapter, a brief overview of the pertinent publications will be presented here.

Learning Assessment in Vocational Evaluation deals with a definition of the learning process. Chapter titles include "Assuring Performance Testing Readiness", "Instructional Techniques", "Implications for Improved Client Awareness", "Benefits for Job Placement/Training", "Methods of Separating Learning and Performance", "Developing Appropriate Instructional Techniques", and "Adapting Standardized Work Sample Instructions".

The Use of Psychological Tests With Individuals Who Are Severely Disabled treats, by chapter, the following concerns: "Adapting Tests for Persons Who Are Severely Disabled (blind, deaf, mentally retarded)", "Modification of Tests for Persons Who Are Severely Disabled", "Test Review Outline", "Achievement Batteries and Reading Tests", "Character and Personality", "Intelligence", "Vocational (clerical, dexterity, mechanical, interests)", "Tests Designed Specifically for Persons Who Are Severely Disabled", "References", "Levels of Test Use", and "Addresses of Publishers".

A list of MDC publications is offered in the Annotated Bibliography in the Appendix.

The reader is urged to consult several sources of information concerning standards of test use. Standards for Educational and Psychological Test, published by the American Psychological Association and Responsibilities of Users of Standardized Tests, published by the American Personnel and Guidance Association are highly recommended.

Other sources of information regarding tests are Buro's Mental Measurements Yearbooks, Tests In Print, Reading Tests and Reviews, and Personality Tests and Reviews. Reviews of specific tests may be found in psychological and educational journals such as the Journal of Educational Measurement and the Journal of Counseling Psychology. Textbooks such as Psychological Testing by Anastasi are good sources of general information about testing.

More specifically for vocational evaluation purposes, several MDC publications are recommended: The Use of Psychological Tests With Individuals Who Are Severely Disabled, Learning Assessment in Vocational Evaluation, and A Comparison of Commercial Vocational Evaluation Systems. The MDC publications should be purchased by anyone engaged in vocational evaluation.

For those who do not obtain the above mentioned publications, a few salient points are presented here:

From Learning Assessment in Vocational Evaluation:

1. Learning is an inference which means that it is not something directly observed. This learning is an inferred or hypothetical concept like gravity or electricity. We never see gravity directly; we observe falling objects and therefore infer that such a process exists.

2. The concept of learning is tired to performance, but it is nto the same as performance. Hence, a distinction is made between learning and performance. Various performance indicators are employed to infer learning such as number of correct responses, errors, percentages of correct responses, response rate, response speed, etc.

3. The concept of learning is tied to conditions of practice which serves to distinguish learning from performance changes attributable to other conditions such as fatigue, maturation, or drug states. This simply emphasizes that the conditions antecedent to learning are practice conditions as distinct from other kinds of conditions.

4. Learning is a relatively permanent process, which is an assumption which is useful in order to distinguish learning from other more temporary processes such as sensory memory or short term memory (Ellis, 1972, pp. 157-158).

From The Use of Psychological Tests With Individuals Who Are Severely Disabled, the Test Review Outline is presented below. This outline is used to analyze most commonly used tests, in the MDC publication, but can be used as a guideline when any test is considered for usefulness. Each point should be addressed before a decision is made to acquire or use a test. The same considerations can apply to work samples.

I. DESCRIPTION

A. Purpose - The specific traits, aptitudes, interests, skills, etc., that the test is designed to measure are given. The final score(s) are identified and the method of presentation given.

B. Format - The physical arrangement of the test and answer sheet, the type of items used, the way of recording answers are included here.

C. Length - This includes the number of items, the administration times, and the time limits, if any.

II. CONSIDERATIONS FOR THE HANDICAPPED

A. Reading Level - The minimum reading level in grade equivalents that the the manual states as being required for successful performance are given. If this information is not provided by the test manual, estimates of the grade level are made.

B. Recording of Responses - Are answers recorded on separate answer sheets, in the test booklet, given orally, etc.? The method given in the test manual for recording the examinee's response is described.

III. USEFULNESS IN PRESENT FORM

A. Blind)
B. Deaf) - -
C. Mentally Retarded)

How useful is the test without any changes for each of these groups? Can the test be used as is? This section is a general evaluation of the appropriateness of the test for the three disability groups.

IV. POSSIBLE MODIFICATIONS

A. Blind)
B. Deaf) - -
C. Mentally Retarded)

Using the techniques described in the first section of this publication, how can each test be modified for the blind, deaf and retarded? Tests that cannot be modified for one or more disability groups are clearly indicated.

V. AVAILABLE FROM - The name of the publisher is given.

The following seven pages have been taken from Vocational Guidance For Handicapped Students: A Training Program (1980). It is a general guide which may be used to screen possible tests to include in a comprehensive testing regimen.

VOCATIONAL EVALUATION ASSESSMENT INSTRUMENTS

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATIVE CONSIDERATIONS
ACHIEVEMENT	Adult Basic Learning Examination (ABLE), Psychological Corp., 757 3rd Ave., New York, NY 10017	Level I = grades 1-4 Level II = grades 5-8 Level III = grades 9-12 Also for adults who have not completed a formal education.	Results in six grade-equivalent scores: 3 in verbal skills; & 3 in arithmetic. Testing time for Levels I & II is 2½ hours; III is over 3 hrs. Hand scored.
ACHIEVEMENT	American College Testing Program (ACT), American College Testing Program, P.O. Box 168, Iowa City, IA 52240	Clients 16 and over, including blind and partially sighted.	Available in Braille, large type and cassette. Used for college admissions.
ACHIEVEMENT	California Achievement Test (CAT), CTB/McGraw-Hill, Del Monte Research Park, Monterey, CA 93940	K-12th grade.	Measures reading, spelling, math, and language skills; scores presented in scale scores, grade equivalents, percentages and stanines. Time = 2-3½ hours. Hand and machine scoring.
ACHIEVEMENT	Peabody Individual Achievement Test (PIAT), American Guidance Service, Inc., Publisher's Bldg., Circle Pines, MN 55014	Clients K-12th, including those who can't write.	Five subtests of: Math; Reading Recognition; Reading Comprehension; Spelling; and General Information. Scores = grade scores, percentile ranks, age scores, & standards. Time = 30-40 minutes. Hand scored.
ACHIEVEMENT	Stanford Achievement Tests. Forms X & W, American Printing House for the Blind, 1839 Frankfort Ave., Louisville, KY 40206	Blind and partially sighted.	Available in Braille and large type. Time = 5 hours.

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATIVE CONSIDERATIONS
GENERAL APTITUDE	General Aptitude Test Battery, GATB, U.S. Employment Service and Rehabilitation Service Administration, Manpower Administration, 14th St. & Constitution Ave., N.W., Washington, D.C. 20210	Grades 9-12, and adults.	Revisions available for deaf. Examiner must be trained by U.S. Employment Services, or Rehabilitation Services Admin. Covers 1200 occupations in 62 CAPS, Occupational Aptitude Patterns.
GENERAL APTITUDE	Lighthouse Clerical Aptitude Test Battery, New York Assoc. for the Blind, 111 East 59th St., New York, NY 10022	Blind.	Measures potential in transcription typing.
GENERAL APTITUDE	Non-Reading Aptitude Test (NATB) U.S. Employment Service, Manpower Admin., 14th St. & Constitution Ave., N.W., Washington, D.C. 20210	9-12, and adults with reading/language deficits.	Non-reading adaptation of the GATB. Examiner must be trained by U.S. Employment Service.
GENERAL APTITUDE	Minnesota Clerical Test, Psychological Corp., 757 3rd Ave., New York, NY 10017	7th grade - adult.	Evaluates speed and accuracy in perceiving details. Time is 15 minutes.
INTEREST	AAMD Reading-Free Interest Inventory, American Assoc. on Mental Deficiency, 5101 Wisconsin Ave., Washington, D.C. 20016	Learning, Communicatively, and Developmentally Disabled.	Pictures of various vocations. Client selects picture out of set of three of jobs she/he likes most.
INTEREST	Kuder Occupational Interest Survey (KOIS). Form D, Science Research Associates, 259 East Erie St., Chicago, IL 60611	Considered too highly verbal for deaf. 6th grade reading and above required.	100 triad items. Choice of activity client likes best. 171 scales: 77 occupational scores (men); 29 college major scores (men); 37 occupational scores (women); 19 college major scores (women); 8 experimental scales. 30-40 minutes. Machine scored.

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATIVE CONSIDERATIONS
INTEREST	PRG Interest Inventories for the Blind, Nevil Interagency Referral Service, 919 Walnut St., 4th Floor, Philadelphia, PA 19107	Blind.	Overcomes tendency to answer based on what she/he can or can't do, rather than on true interests. Based on jobs done & chosen by the blind. Administered orally and by tape.
INTEREST	Strong-Campbell Interest Inventory, NCS Interpretive Scoring System, Customer Service, P.O. Box 1416, Minneapolis, MN 55440	Persons with reading levels at approximately 6th grade, and ages 17 and up. Also, the blind.	325 items divided into 7 sections. Scores for men and women, and tapes for the blind. 30 minutes to administer. Hand/machine scored.
IQ	Chicago Non-Verbal Test, Psychological Corp., 757 3rd Ave., New York, NY 10017	Ages 6-adult. Includes deaf and those who have reading/language deficits.	Norms specifically designed for language handicapped. 25 minutes to administer.
IQ	Culture Fair Intelligence Test, Institute for Personality and Ability Testing, 1602 Coronado Dr., Champaign, IL 61820	All clients, including Spanish-speaking, and non-readers.	No reading required. Spanish tapes available. Composed of metrices, geometric figures, and drawings. 30 minutes to administer. Hand scored.
IQ	Haptic Intelligence Scale for the Blind Adult, Psychology Research, Box 14, Technology Center, Chicago, IL 60616	Blind clients 16 and up.	Depends on tactile skills. 6 subtests similar to the WAIS performance subtests.
IQ	Leiter International Performance Scale, Tray 3, Stoelting Company, 1350 S. Kostner Ave., Chicago, IL 60623	Cerebral Palsied clients aged 14-18.	Consists of 68 non-language tasks. Yields lower IQ scores than some other IQ tests.
IQ	Peabody Picture Vocabulary Test (PPVT), American Guidance Service, Publisher's Bldg., Circle Pines, MN 55014	Can be utilized with non-readers, speech-impaired, cerebral palsied, autistic and partially-sighted.	Client must select picture from sets of four with use of "cue" words. 2 different forms (A & B). 15 minutes to administer. Hand scoring.

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TEST PURPOSE	TITLE	POPULATION	ADMINISTRATION CONSIDERATIONS
IQ	Wechsler Adult Intelligence Scale (WAIS), and Wechsler Intelligence Scale for Children (WISC), Psychological Corp., 757 3rd Ave., New York, NY 10017	WAIS = 16 and above. WISC = 15 and below. The verbal scales are utilized for the blind.	11 subtests, 6 are verbal scores, 5 performance. Final scores are Performance, Verbal, and Full-Scale IQ scores. Both tests range from 1½-2 hrs. in length.
MANUAL DEXTERITY	Crawford Small Parts Dexterity, Psychological Corp., 757 3rd Avenue, New York, NY 10017	No stated population limits.	Measures fine eye-hand coordination. Works with pins/collars/screws, in assembly tasks using small tools. 15 minutes for administration.
MANUAL DEXTERITY	MicroTower Work Samples: Bottle-Capping & Packing, and Electronic Connector ICD, ICD Microtower, 340 E. 24th St., New York, NY 10010	Can be used with DD, LD, and PD (depending on degree of disability).	Bottle-Capping & Packing deals with gross manual skills, while Electronic Assembly deals with fine dexterity. Both normed against 1215 rehabilitation clients. Results include lists of job categories to which the work samples are related (DOT'S).
MANUAL DEXTERITY	Purdue Pegboard, Science Research Associates, 259 East Erie St., Chicago, IL 60611	9-16, adults.	Measures gross hand and arm movement, as well as fine dexterity. Client assembles pins, collars, washers, etc. Time = 10 minutes. Hand scored.
MECHANICAL APTITUDE	Differential Aptitude Test (DAT) Mechanical Reasoning, Form A Psychological Corp., 757 3rd Ave., New York, NY 10017	8-12 grades. Available in Braille.	Assesses understanding of mechanical and physical principles in familiar situations. Time = 3 hours.
MECHANICAL APTITUDE	Minnesota Mechanical Assembly Test, C.H. Stoelting Co., 1350 S. Kostner Ave., Chicago, IL 60623	11 years and up.	Measures mechanical reasoning and information.

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATION CONSIDERATIONS
PERSONALITY/ EMOTIONAL	Adolescent Emotional Factors Inventory, Nevil Interagency Referral Service, 919 Walnut, 4th Floor, Philadelphia, PA 19107	Blind.	Items relate specifically to problems resulting from lack of vision. Both large print (for partially sighted) and Braille available. Scales: Sensitivity; Somatic Symptoms; Social Competency, Attitudes of Distrust; Family Adjustment; Boy-Girl Adjustment; Morale; Attitude Toward Blindness; and Validation.
PERSONALITY/ EMOTIONAL	Edwards Personal Preference Schedule (EPPS), Psychological Corp., 757 3rd Ave., New York, NY 10017	Was designed for college students - high reading level.	Measures: Achievement; deference; order; exhibition; autonomy; affiliation; intraception; succorance; dominance; abasement; nuturance; change; endurance; heterosexuality aggression. 225 forced-choice items. Time = 1 hour. Hand or machine scored.
PERSONALITY/ EMOTIONAL	Minnesota Multiphasic Personality Inventory (MMPI), Psychological Corp., 757 3rd Ave., New York, NY 10017	Only 3rd-4th grade level of reading necessary. Suggested use with older adolescents and adults.	Norms for adult deaf available. Measures: hypochondriasis; depression; hysteria; psychopathic deviate; masculinity-feminity; paranoia; psychaasthenia; schizophrenia; hypomania; social. Time = 45-90 minutes. Hand/machine scored.

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATION CONSIDERATIONS
PERSONALITY/ EMOTIONAL	Observational Emotional Inventory McCarron-Dial Corp., P.O. Box 45628, Dallas, TX	No stated population limits.	Series of observational scales for Neuropsychological-Impulsivity; Depression-Withdrawal; Anxiety; Self-Concept; and Socialization. The scales were developed for the use of staff in rehabilitation workshops over a 5-day period, but can be modified for teacher, counselor use.
PERSONALITY/ EMOTIONAL	Work Environment Preference Schedule (WEPS), The Psychological Corp., 757 3rd Ave., New York, NY 10017	No stated population limits.	Tests for "bureaucratic orientation", which reflects commitment to a set of attitudes, values, and behaviors rewarded by organizations. Time = 15 minutes. Hand scored.
PHYSICAL TOLERANCE	VALPAR: Whole Body Range of Motion, VALPAR Corp., 380 E. 34th St., Tucson, AZ 85713	No stated population limits.	Client is asked to work in stooping, crouching, kneeling, bending, reaching-overhead positions. Speed and ability to work for long periods of time are measured, in comparison to various populations. Work sample is related to various job categories (DOT'S). Time = 20 minutes. Hand scored.
PHYSICAL TOLERANCE	McCarron Assessment of Neuromuscular Development (MAND), McCarron-Dial Corp., P.O. Box 45628, Dallas, TX	No stated population limits.	10 subtests (motor-perceptual), divided into fine and gross motor scores. Measures bimanual dexterity, muscle power, persistent muscular control, and kinesthetic integration. Results in profile scores in comparison to various norms. Time = 30 minutes. Hand scored.

TEST PURPOSE	TITLE	POPULATION	ADMINISTRATION CONSIDERATIONS
WORK SAMPLE	Comprehensive Occupational Assessment and Training System: (COATS) Metal Construction Trades, PREP, Inc., 1575 Parkway Ave., Trenton, NJ	Older adolescents and adults.	Assesses ability to perform a variety of functions common within most metal construction trades, tools, and metal materials are utilized under examiner supervision. Time = 3 hours. Machine scored.
WORK SAMPLE	Microtower: Payroll Computation, MICROTOWER, ICD Microtower, 340 E. 24th St., New York, NY 10010	Older adolescents and adults.	Assesses client's ability to perform change-making tasks. Result: placed on a profile in comparison to a rehabilitation population. As in all MicroTower work samples, a tape and photobook of related jobs is included. Time = 80 minutes. Hand scored. DOT'S
WORK SAMPLE	VALPAR: Drafting, VALPAR Corp., 380 E. 34th St., Tucson, AZ 85713	Older adolescents and adults.	Assesses client's ability to perform various entry-level drafting tasks. Time and error scores result in percentile scores in comparison to various norms. Time = 2 hr. Hand scored.

LIST OF VOCATIONAL EVALUATION SYSTEMS

1. Comprehensive Occupational Assessment and Training Systems (COATS)
   (12-30 hours or more, $4,640 plus 4-10 Work Samples/$900 each, on the average)
   Prep, Inc.
   1575 Parkway Avenue
   Trenton, NJ 08628

2. Hester Evaluation System (HESTER)
   (5 hours, $7,200)
   Evaluation Systems, Inc.
   640 N. La Salle Street, Suite 698
   Chicago, IL 60610

3. McCarron-Dial Work Evaluation System (MDWES)
   (one day, $1,500)
   McCarrol-Dial Systems
   P.O. Box 45628
   Dallas, TX 75245

4. Micro-Tower
   (15 hours, $8,000)
   Micro-Tower
   ICD Rehabilitation and Research Center
   340 East 24th Street
   New York, NY 10010

5. Philadelphia Jewish Employment And Vocational Service Work Sample System (JEVS)
   (six or seven days, $8,000, including training and on-site visitation by JEVS staff)
   Vocational Research Institute
   Jewish Employment and Vocational Service
   17000 Sansom Street, 9th Floor
   Philadelphia, PA 19103

6. Pre-Vocational Readiness Battery (Valpar 17)
   (5½ hours, $3,200)
   Valpar Corporation
   3801 E. 34th Street, Suite 105
   Tucson, AZ 85713

7. Talent Assessment Programs (TAP)
   (2-2½ hours, $3,100, including delivery and on-site staff training)
   Talent Assessment, Inc.
   P.O. Box 5087
   Jacksonville, FL 32207

8. The TOWER System (TOWER)
   (three weeks or less, about $5,000)
   IC Rehabilitation and Research Center
   340 East 24th Street
   New York, NY 10010

9. Valpar Component Work Sample Series (VALPAR)
   (16 hours, $495 to $990 per work sample, 16 work samples)
   Valpar Corporation
   3801 East 34th Street
   Tucson, AZ 85713

10. Vocational Evaluation System (Singer)
   ([illegible]-2½ hours per work samples, $1,544 average per work sample,
   [illegible] work samples)
   Singer Educational Division
   Career Systems
   80 Commerce Drive
   Rochester, NY 14623

11. Vocational Information and Evaluation Work Samples (VIEWS)
   (four to seven 5-hour days; $7,675 includes training costs,
   and on-site visit by JEVS staff)
   Vocational Research Institute
   Jewish Employment and Vocational Service
   1700 Sansom Street, 9th Floor
   Philadelphia, PA 19103

12. Vocational Interest Temperament and Aptitude System (VITAS)
   (three 5-hour days, $8,190 including shipping and tuition
   for training one person and on-site visitation)
   Vocational Research Institute
   Jewish Employment and Vocational Service
   1700 Sansom Street, 9th Floor
   Philadelphia, PA 19103

13. Vocational Skills Assessment and Development Program (Brodhead-Garrett)
   (one week, $6,000)
   Brodhead-Garrett Company
   4560 East 71st Street
   Cleveland, OH 44105

14. Wide Range Employability Sample Test (WREST)
   (1½ hours, $17,000)
   Jastak Associates, Inc.
   1526 Gilpin Avenue
   Wilmington, DE 19806

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COUNSELING AND DISABILITIES

Although the evaluator behaves as a "camera" during testing sessions, other skills come into play in the vocational evaluation process. The evaluator must possess and exercise counseling skills, especially toward the beginning and end of the evaluation process. The initial contact calls for the evaluator to develop a healthy working relationship with the person to be evaluated. Too often, testing of any type carries the threat of failure into the process. The evaluator needs to identify and respond to fears so that anxiety will not hamper testing performance.

The good evaluator can explain the evaluation process in such a way as to minimize the threat of testing. Putting the student at ease by openly presenting the purposes and methods of evaluation and by explaining that everyone has strong and weak areas, is a beginning. The fact that an accurate assessment can lead to satisfying, successful employment should be presented by the evaluator. The focus should be on locating the person's strengths and figuring out how to maximize them.

When the evaluation process nears completion, it is the evaluator's duty to carefully integrate testing results and other data into a pattern which can be presented in a clear, understandable manner. The evaluator's role is to develop choices for the student. Alternative choices may include specific jobs, full versus part-time employment, appropriate training programs, and other information. The ramifications of each choice, with both possible negative and positive consequences need to be explored so that the student may decide which choices to pursue.

The general process of exploring vocational choices involves elements of brainstorming: any and all suggestions should be explored instead of rejecting them out-of-hand. Unrealistic or infeasible vocational decisions can be explored by the student, with guidance from a professional; in this manner, the student can learn on his or her own whether or not a career choice is appropriate, and can "own" the decision. The alternative, of telling a person not to try one thing or another, sets up a conflict in which the evaluator may be seen as an authority figure against whom any "rebellious" (actually, a need to possess power over one's life) feelings can develop.

The counselor-evaluator is able to assess limits and strengths and then act as an ego advocate, a problem-solver. This will reduce conflict and lead to exciting movement toward successful employment for the student.

The evaluator is faced with the immense task of matching an individual with one or several jobs out of thousands of possibilities. The evaluator must be humble about her or his ability to decide for another human, on the basis of necessarily limited information, which career is best suited to that individual. Therefore, you are cautioned that recommendations regarding specific courses of action to follow should have an element of tentativeness built-in. Instead of recommending that "Johnny should forget about being a bartender," one might recommend that, "Should Johnny learn how to count change correctly, and acquire social skills sufficient to allow him to speak with strangers, he may be able to pursue his goal of becomming a bartender." In the second recommendation, the evaluator has set forth the criteria in which deficits to be overcome could lead to Johnny's fulfilling his goal of becoming a bartender. The first recommendation could prove to be spurious if Johnny were to overcome deficits in spite of the evaluator's opinion; at the very least, it creates a negative statement which needlessly flavors the evaluation as a negative experience.

DEALING WITH DISABILITY INFORMATION

Without discussing specific classifications of disabilities, it is necessary to understand the general nature of disabling conditions. We all have a disability. It can take the form of a permanent or temporary condition. It can be congenital or originating in childhood, or it can occur in adulthood. Any condition which limits a person's ability to compete in a specific area of functioning can be considered a disability. Thus, age, race, sex, or attitude can limit entry into and success at any particular job. (Although age, race and sex factors have recently been minimized, they must be kept in mind as potential barriers to be overcome in pursuit of jobs traditionally limited from persons possessing certain characteristics.).

Within any classification of disability, there exist a wide variety of conditions. The label "cerebral palsy", for instance, does not tell anything about how a particular person within that category has adjusted to or compensated for functional limitations. It does not tell the scope or severity of the disabling condition. It does not tell what vocational barriers need to be dealt with. And, it does not automatically lead to a particular training or vocational prescription.

Therefore, each individual must be seen as a unique person who has strengths, abilities, life successes, limitations and untapped potential. Each person must be assessed without prejudice or stereotyped reactions. This is not to say that the person's functional limitations should be minimized, but abilities are more important.

A realistic picture of a person must be a complete one; functional limitations should be measured and addressed. The student must be aware of his or her areas of relative strengths and limitations so that vocational choices take into account not only probable areas of success, but also areas of difficulty, which, if even slightly involved, could lead to a failure experience. Failure experiences are going to occur anyway because there is no absolute guarantee of success for anything in life. But, the evaluator's job is to increase the likelihood of success.

Limitations can be seen as preliminary guideposts, tentative signs that further investigation may be necessary. For instance, a person with a hearing impairment may be seen as precluded from automotive tune-up work at first glance. But, on closer examiantion, there are modifications of the job environment which has allowed persons with limited hearing to succeed in automotive tune-up jobs, by using diagnostic instruments to substitute visual information for auditory feedback.

Often, a person having a limitation in one area of functioning develops other areas to compensate. Compensations actually result in the "overdevelopment" of skills in relatively strong areas of ability. One example is the blind typist, who usually makes fewer mistakes than sighted typists, because cues other than vision are attended to in a more concentrated fashion. In this way, a person who has avoided, or over-compensated for, a functional limitation can be seen as a superior performer of specific tasks.

Generally, it is better to encounter and evaluate the person in such a way as to objectively measure specific areas of functioning, rather than to rely on a label or diagnosis. The focus can then be on abilities, as opposed to inabilities.

Of course, the diagnosis of a disability has its benefits. Standard strategies of treatment may have been developed to allow efficient remediation and amelioriization of the disabling condition. The diagnosis also determines eligibility for special programs and services. So, paradoxically, the classification of disability has its negative and positive connotations. Both aspects of disability need to be kept in mind, but acted upon in different ways by the evaluator. Therefore, the disability opens some (service eligibility) doors, and opens other (vocational) doors; at the same time, the effects of disability must be seen as potential limitations.

DISABILITY -- BIRTH VERSUS ADULT ONSET

From a counseling point of view, there are general guidelines for dealing with a person who has had a disabling condition from birth, and other guidelines for those who have been disabled later in life.

The person who has lived with a functional limitation all his or her life has adjusted to the limitation all along. Family influence on how well the person has adapted is an important factor to be dealt with by the evaluator.

Those persons who have experienced the onset of disabling conditions in adulthood often have had to make major readjustments in their lives. They may have had successful careers in which they are now unable to continue. The industrially injured worker, for instance, may have faced adjustment to the physical rehabilitation process, to changed roles within the family, to a lowered standard of living, to a loss of status in the community, and to lowered self-esteem. The frustration of having to change one's life, often for the worse, is a major factor in this person's makeup.

The greatest handicapping effect of having a disability is attitudinal in nature. Changing the attitude of students, campus staff, and employers must be a major goal in the rehabilitation process. It is important that the student realize her or his self-worth and potentials. The saying, "It's not what you have but what you do with it," makes the point that success depends on using one's abilities, as opposed to stressing disabilities.

DATA COLLECTION

INTERVIEWS

The Initial Interview

The initial contact between the evaluator and student should be well structured, have goals and purposes, and should result in a contract between student and evaluator.

The evaluator should have a structured format to guide the initial interview. A form detailing salient areas of inquiry should be used to ensure complete and comprehensive data gathering. Part of the structuring needs to address the time frame within which the interview occurs. If the period of time available does not appear sufficient to perform a good interview, a second session can be arranged to complete it.

Goals of a good interviewer are: developing a working relationship, developing clear questions to be answered, engaging the student in the process, generating sufficient background data on the individual, and facilitating movement of the student.

A working relationship is based upon an agreement between evaluator and evaluatee, an informal contract, which outlines expected outcomes of the evaluation process ("We will come up with some vocational choices."), which clarifies responsibilities ("I will help you find information but it is up to you to find some information and to decide what is best for you."), and which focuses on actively pursuing goals.

The evaluator's counseling skills will be called upon to encourage the student, to identify the student's direction of movement, to broaden rather than narrow, initially, the field of choices, and to allow the student to accept personal responsibility.

Generally, when interviewing for data, the evaluator should be directive. Providing direction at the outset can be reassuring for a person who may feel threatened by such an ambiguous and important experience as that involved in a vocational evaluation. Avoiding questions, and especially "why's" can be beneficial, as the evaluator does not want to appear as an interrogator. Instead, statements such as, "Tell me about your first job, starting with the dates of employment and job title," or "I would like to know what, if any, medications you are now taking," personalize the interviewing experience.

The interview is often best ended with a homework assignment. The assignment can be completing an interest survey, or visiting the career center to locate some piece of information such as the California Occupational Guide on Accounting. The value of homework lies in the student's practicing use of information resources and taking personal responsibility. The evaluator can also assess the student's account of the homework experience.

The Exit Interview

The completion of a testing regimen presupposes several activities. First, the evaluator already should have explained the nature and purposes of the tests administered, as well as carefully described their uses and shortcomings. Secondly, the student already should have begun vocational exploration, perhaps confirming or questioning tentative hypotheses generated by test results or discussions with the evaluator. The exit interview, then, should contain no surprises, for it is at this point that the student is expected to assume a certain level of responsibility for actively pursuing and deciding on several vocational choices. Hopefully, enough instruction and counseling has been afforded the student so that her or his independence is maximized; enough self-knowledge and knowledge of information resources has been transferred to the student to allow the job seeking process to continue without a great deal of assistance or direction from the evaluator.

The exit interview's purpose is to draw together the various pieces of data into a coherent picture of the individual. Emerging patterns can be pointed out to the student. Agreement can be reached regarding what the next steps are and where they well might lead. The student should have developed several choices of vocational possibilities to pursue.

PHYSICAL/MEDICAL DATA

In evaluating a person, it is helpful to know something of her or his background, especially medical information. Childhood diseases or traumatic incidents, surgical interventions, broken bones, and dates of events are often significant factors in the person's present makeup. Current medications should be closely examined.

Medical records can be obtained by having the individual sign a medical release of information form. Medical information should be sought in the initial interview and checked against recorded data for completeness and verification. The permanence and stability of the disabling condition must be known. For example, a congenital sight deficit may be permanent and unchanging, compared to the possible continued loss of vision associated with diabetes.

The initial interview should include seeking information regarding aids used, such as glasses or contact lenses, hearing aids, crutches, braces, etc., as they are sometimes not obvious from appearance but can be important in considering specific job choices.

The specifics regarding medications must be obtained; names, dosages and frequencies of medications should be recorded. The Physician's Desk Reference should then be consulted to determine hazards (e.g., "should not operate dangerous equipment"), cautions (e.g., "may increase the effects of organic brain syndromes"), and other side effects of medication.

EDUCATIONAL FACTORS

Reviewing academic records provides the evaluator an opportunity to form an impression of the progress made by the individual over a period of time.

Success experiences in specific courses, as well as achievement in particular content areas, gives one a general pattern of the unique experiences which the student brings with him or herself to the evaluation process. Negative information recorded in educational records can be misleading and inaccurate; however, the evaluator can be made aware of how the student has been viewed by others, and the possible implications regarding how the student may expect to be seen by school personnel.

Apart from reviewing academic records, the individual's educational experience can be a valuable source of data with which to define parameters in the vocational exploration process. During the initial interview, the opportunity should be seized to explore the courses enjoyed most, those enjoyed least, and the personal experiences which led to satisfaction or dissatisfaction.

For instance, although a student's academic records reflected high achievement in mathematics, she has decided against pursuing math because she was told that women do not become mathematicians. In this case, the evaluator can confront a stereotype and delve into job opportunities in the math field open to any person who has the ability.

Educational expectations can be surveyed during the interview. A person who wishes immediate employment will not be dealt with the same as one who wishes to complete a post-graduate program.

FAMILY/SOCIAL BACKGROUND

Family and social relationships have a great deal of influence on the individual. During the initial interview, the evaluator should touch on the individual's home life: dependents, spouse, significant others, their roles, their expectations, and their degree and type of support for the student. The importance of gather ing this information is pointed out by the example of an aspiring music student whose parents threaten to disinherit her unless she pursues a legal career. In this case, the student will need to deal with the familial expectations, which can significantly affect the vocational decision-making process.

ECONOMIC FACTORS

One of the factors which must be matched from individual to job is the financial needs of the person, versus the remuneration expected from a job. Attached to the economic factor are such considerations as lifestyle, status, and expectations for advancement.

The evaluator should bring up the subject of expected salary with the student, and initiate a discussion of the implications of wages. The student should realize that jobs which involve a greater amount of training and experience often pay more, and that jobs which demand greater autonomy (and often stress) tend to pay more. Also, higher paying jobs often require unique job search techniques.

On the other hand, lower-paying jobs are frequently easier to enter, demand less stressful work, and can offer a combination of experience and upward mobility for those who have little previous experience.

The student should be able to list his or her projected monthly expenses so that a general salary requirement can be estimated.

Some compromise can be expected between desired job characteristics and financial needs. A person may decide, for example, that she/he would prefer to work at a low-paying clerical job because the work and work environment, geography (related to transportation), and advancement opportunities outweigh the positive financial attributions of electronics engineering, which would have entailed a long training program, relocation to another area, and performance of a job in which social contact may be limited.

VOCATIONAL HISTORY/TRANSFERRABLE SKILLS

Transferrable skills are functional abilities which can be applied to several different job settings. Such abilities can take many forms, and even the most basic ability is important. The ability to show up on time for appointments, past experience with public contact work (babysitting), use of handtools (gardening), ability to follow directions (doing homework independently), and organizational planning (housework) are some examples.

The more traditionally identified skills include hand/finger/manual dexterity, verbal comprehension, verbal communication, arithmetic computation, reading, writing, use of tools or equipment, supervision, typing, spatial reasoning, and others. Many of these skills can be measured by testing. For instance, mechanical comprehension can be measured by the Bennett Mechanical Comprehension Test. However, most developed skills can be assessed for an individual by closely examining previous employment experiences, hobbies, or volunteer work, in a careful interview.

Once someone has performed an activity, it can be seen as "experience" which can translate into job possibilities. A rich assortment of skills can be elicited from even the young, inexperienced person. Probing past experiences can lead to a valuable list of skills which can then be matched with jobs. This leads to a sense of familiarity with jobs to which the person has never been directly exposed.

VOCATIONAL EXPLORATION

Combined With Vocational Evaluation

The "problem" with occupational information as it relates to vocational evaluation is simply that it's not being used, at least not to any great extent. That occupational information has a place in the vocational evaluation process is the theme of an article by Gannaway (1972). He describes occupational (and vocational) exploration as a necessary process in which clients should have the opportunity to "gather occupational information" and then to "reality test" (page 7) actual or simulated work in order to aid in their progress toward an appropriate vocational identity or work role. He continues on to say that this process "remains a neglected or at least little recognized facet in the vocational evaluation process." The emphasis in evaluation, according to Gannaway, has been "too heavily weighted toward trait-factor matching." (page 8) What is missing is the opportunity for the client to read about, look at, and listen to occupational information so that additional learning about the actual world of work may take place during the time that the client's abilities, skills, aptitudes, and interests are bieng evaluated. More recently, the Vocational Evaluation Final Report (1975) recommends the use of occupational information as a resource tool by which clients may evaluate the appropriateness of various jobs (page 60).

An excerpt from the MDC publication, Occupational Information in Vocational Evaluation (page 2).

OCCUPATIONAL AND EDUCATIONAL INFORMATION

Before one can be fully prepared to do vocational counseling with any student - disabled or not - one must have access to accurate occupational and educational information. Books and lengthy graduate courses are available on how to establish occupational libraries and career centers. There are seemingly endless sources of occupational and educational information. Therefore, this one chapter is not intended to tell you everything one could or needs to know about assembling such information. The objectives of this chapter, instead, are as follows:

A. Provide a summary of what to look for in and how to select sources of occupational information, with particular attention to the needs of students with disabilities.

B. Describe an example of a system of occupational information that is particularly well-suited to the needs of students with disabilities.

C. Discuss the use of information interviewing techniques for obtaining occupational and educational information.

D. Demonstrate how to obtain labor market information.

E. Provide suggestions for locating and assembling information about local vocational education programs.

A. SELECTING OCCUPATIONAL INFORMATION*

You are probably familiar with a number of sources of occupational information. If you assist students in developing career awareness and vocational decision-making, you probably are most familiar with single occupation information and job, family or occupational clustering systems.

When providing vocational guidance for students, you probably first help the student identify job families or clusters of occupations which are likely to interest them. From there, you probably assist them in researching information about specific occupations within the identified job families. Of course, that narrowing down process is no different for students with disabilities. What is different if you are to serve students with disabilities well is the mind set you have when selecting occupational information.

Ideally, if your school has a career center or occupational information library, it was filled with information after a needs and resources survey was conducted. The data from such a survey can prevent accumulating information or materials that are not suited to the needs of your particular institution and students. If you have the opportunity now to begin a career center or to revise your career center, the form on the following page demonstrates some questions you will need to ask so as to prepare yourself to meet the needs of disabled and disadvantaged students.

Even if you do not have plans to revise your existing career center, we hope you will examine the form, ask yourself the questions and review the resulting recommendations as you update your career center's materials. You might find yourself selecting materials you would not have considered selecting before.

You will probably want to modify and add to the form. Please do so. It is intended to be a starting place only - something to get you thinking.

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*The following 10 pages were taken directly from Vocational Guidance For Handicapped Students: A Training Program (1980).

NEEDS ASSESSMENT FOR OCCUPATIONAL INFORMATION LIBRARY

Questions to Answer	Activities that Might Lead to the Answer	Activities that I/We Can Do at Our School	Answers	Requirements to Meet the Needs Discovered
Estimated no. students with each of the following educational goals: Less than high school diploma High School diploma or GED Vocational skill training Two year degree Bachelor's degree Graduate or professional degree	Admissions data or conduct simple survey of students			
Regarding Resources: What facility/space is available to house the information? How much money will you have available to purchase information materials initially? How much in subsequent years? How much staff time will be available to order, file & update information? What is the projected ratio of staff who can assist students, to students?	Ask appropriate administrators.			
Are readers available? Are sign language interpreters available?	Ask special educators, resource teachers, coordinators of services for students with disabilities.			
Are bilingual interpreters available?	Ask EOPS, bilingual educators.			

NEEDS ASSESSMENT FOR OCCUPATIONAL INFORMATION LIBRARY

Questions to Answer	Activities that Might Lead to the Answer	Activities that I/We Can Do at Our School	Answers	Requirements to Meet the Needs Discovered
Regarding Students: No. of students to be served Age range Mean age	Admissions data			
English reading level range Mean English reading level	Ask whomever is responsible for programs involving standardized testing.			
No. visually impaired No. blind No. who can read Braille No. hearing impaired No. deaf No. who know sign language No. who read lips No. with physical limitations What physical accessibility considerations do they require?	Ask special education administrator or administrator for services for students with disabilities.			
No. Non-English Speaking (NED). What language(s) do they speak? No. Limited English Speaking (LES) What are their primary languages?	Ask EOPS administrator or administrator responsible for bilingual education or English as a second language (ESL).			

There are two categories of adjustments in occupational information to keep in mind for the needs of students with disabilities. 1) content and 2) accessibility.

1. Content

   a. Students with disabilities need role models to change their mind set about what they can and cannot do, to change our biases as counselors and to change the biases or mind sets of their parents or families regarding what jobs can and cannot be done by people with disabilities

   b. Detailed information about the physical demands of occupations is needed. If this is provided, the student and counselor can examine occupations under consideration according to what, if any, modifications might be necessary for a particular student with particular physical limitations to perform the occupations in question. Information about physical demands is helpful at the beginning of a student's search so as to be a gentle part of the narrowing down process. Sometimes students with disabilities have been extremely isolated from the world of work, due to hospitalization, lack of independent mobility, or family and school protectiveness. If this is the case, they may have highly unrealistic concepts of the physical activities involved in performing occupations in which they have some interest. It seems far better to prepare them for the realities of the physical demands with the gentleness of documented occupational information than relying on the observations of the counselor (which denies the student some of the power to research his/her own destiny) or waiting until they narrow their choice down to observe (with disappointment) one or two occupations that would present major difficulties for them physically.

   c. Information is needed about the usual reading, writing, spelling, math, and perceptual requirements of occupations. The arguments for this are the same as the arguments for information about physical demands. This information would be used by all students but would be especially helpful to students with learning disabilities. They could more easily begin to recognize the adaptations they would need to make in order to successfully engage in occupations of interest to them.

2. Accessibility

   The best of information will not meet the needs of students with disabilities if it is not in a place and format which they can use. Students with disabilities need a sense of independence and power to control their own lives as much as, if not more than, "normal" students. Making occupational and educational information as independently available to students with disabilities as to other students is important to their self-esteem. Below are disability groups and some things that will make the information accessible to them.

   a. Blind - Braille copies of information, audio tapes. Keep in mind that not all blind students read Braille.

b. Visually Impaired - Large black print on white or yellow paper. Print enlargers that provide black on white or white on black, such as Visualtek Audio tapes.

c. Deaf - Printed transcripts of audio tapes, video tapes and films. Many deaf students have not had adequate education and experience with the English language, though. For those students, video tapes and films with sign language interpreter insets will help.

d. Hearing Impaired - Make the occupational information library a quiet place.. Extra noises will make it difficult for hearing impaired students to understand what you are saying or what audio recorded material is saying. Printed transcripts will help.

e. Learning Disabled - Have as much information as possible in audio visual format. Select printed information at the lowest possible reading level without sacrificing appropriateness of content. In many cases, a quiet place without audio or visual distractions is helpful.

f. Severely Physically Limited - Use an information system that has access through a computer; this limits the amount of necessary movement and manipulation of papers and objects. If student has upper extremity muscle incoordination that produces errors in what she/he types into the computer, try using a key guard, a template that fits over the typing keyboard and prevents hitting more than one key at a time. Make certain the career center is wheelchair accessible. Place information in files and on shelves that can be reached from a wheelchair. Consider not only the height of materials, but also where the student's feet will go and how far one has to reach forward to grasp the material.

g. Mentally Retarded - Select materials that match the reading level of the students. If they do not read, select audio-visual materials. In all cases, make certain the concepts and terminology are kept simple: one thought at a time. Select materials so as to allow repetition of similar information in many different ways. Find materials that engage the active participation of the student as much as possible.

The above suggestions are just that. They are suggestions, not all-inclusive and always applicable. You might want to add your own suggestions and considerations, or ideas brought up by another colleague. You might find some of the above suggestions don't even work the way one would expect them to. (If that is the case, please let us know.)

B. EXAMPLES OF OCCUPATIONAL INFORMATION MEASURED AGAINST THE ABOVE SUGGESTIONS

U.S. Department of Labor. Dictionary of Occupational Titles, (4th edition). Washington, D.C.: Government Printing Office, 1977. (DOT)

This newest edition of the DOT is worth mentioning for those of you who have not examined it. As in the third edition, it has an Occupational Group Arrangement and an Industry Arrangement of titles. Three digits have been added to the six-digit coding system that was used in prior editions. The last three digits now enable one to distinguish occupational titles that have the same six-digit code. As before, the three digits to the left of the decimal point represent the Occupational Group to which the occupation belongs. The next three digits to the right of the decimal point represent the job demands in relation to (respectively) data, people, and things. The three digits to the right of the decimal point are followed by a hyphen and then the three digits that uniquely label that specific occupational title.

The three digits to the right of the decimal point are important clues that can be used with students who have disabilities. A positive way of stating this is that one can find out a student's strengths with respect to working with data, people and things and then look for codes that match those strengths. The smaller the number, the more complex the relationship of the occupation to data, people or things. For example, the code for PRECISION-LENS GRINDER is 716.382-018. In this case, the occupation requires the ability to compile data (3), with the only necessary relationship with people being taking instructions from and helping people (8). The job requires a fairly complex relationship to things (2) - operating and controlling. The appendix of the DOT defines the terms for the Data, People and Things codes.

U.S. Department of Labor. Guide for Occupational Exploration. Washington, D.C. Government Printing Office, 1979. (GOE)

Every career center should have this book. It is best used as a companion to the DOT. It arranges the World of Work into 12 occupational interest areas. These 12 areas are easily related to John Holland's six occupational categories. Within each of the 12 areas, occupations are divided into Work Groups, based upon the capabilities and adaptabilities required of the worker. There are 66 Work Groups altogether, organized as subgroups within the 12 interest areas. There is a descriptive article about each Work Group. The articles answer the following questions:

- What kind of work would you do?
- What skills and abilities do you need for this kind of work?
- How do you know if you would like or could learn to do this kind of work?
- How can you prepare for and enter this kind of work?

After the questions and their answers, there is a complete list of DOT job titles and numbers which fall into the work group being described. The reading level is approximately 7.2.

Winefordner, D.W. Worker Trait Group Guide, Bloomington, IL: McKnight Publishing Company, 1978.

This is an educational version of the GOE. It is organized by the same 12 Areas and 66 Work Groups as the GOE. In this publication they are called Career Areas and Worker Trait Groups respectively. The code numbers for each group are the same as the GOE. The wording of some of the titles are different, with a few variations in assignment of occupational titles. The Worker Trait Group Guide is the basis for the Career Information System developed by Appalachia Educational Laboratory (AEL). U.S. Army Career and Education Guide, Student Edition, uses the same format and sources of information.

The materials in the AEL Career Information System and related materials in the AEL Comprehensive Career Decision Making Program have been particularly adaptable to the needs of students who have disabilities other than mental retardation. The following describes some of the AEL materials published by McKnight, and their assets for use with students with disabilities, as applied at the Career Center at Chaffey Community College.

The 18 Career Decision-making filmstrips with cassette tapes are good for almost all students because their audio-visual format does not require reading. Readers and non-readers alike can benefit from the presentation. Students who have visual deficits can hear the information. Those with some hearing deficits can wear earphones to block out interfering noises and hear the information being presented more clearly. The information presented is not quickly dated, so one need not worry about replacement expense. Examples of filmstrip/cassette titles are: Introduction to the Career Information System, Work Activities, Work Situations, Working Conditions, and Physical Demands, Creating a Career.

The Work Activities Checklist and Work Situations Checklist are short enough that they can be read to students who cannot read. For students who can read Braille, Chaffey College has obtained permission to reproduce the checklists in Braille (for use by Chaffey students only, not for general distribution). These checklists are for students to assess their preferences in a format that ties into the Worker Trait Group Keysort Deck.

The Worker Trait Group Keysort Deck has features that can be helpful to students with disabilities. These features must be used carefully and wisely though. It is a deck of 66 cards, one for each Worker Trait Group. Using a stitch holder that is inserted through appropriately coded holes, you can sort out the cards representing Worker Trait Groups which contain preferred job characteristics and which avoid job characteristics considered undesirable by the student. When the student puts the needle through a hole coded for a factor she/he wants in an occupation, the cards for the Worker Trait Groups containing that factor will have a notch cut into that hole, so the cards representing the desirable factor will fall out of the deck. When the student is trying to eliminate Worker Trait Groups that contain an especially undesirable factor, the student inserts the needle into the hole coded for that factor and then discardsthe cards that fall out. The factors for which one can sort include: Work Activities, Work Situations, General Education Development (level of problem-solving ability required), Preparation (amount of training required), and Physical Demands. There are additional holes that can be notched for coding other factors of your choice.

The coding for General Education Development, Preparation, and Physical Demands is based on Department of Labor research on the requirements for the occupations clustered in each Worker Trait Group. In sorting for Physical Demands, one needs to understand that the demands are coded according to the way the occupations are customarily performed. This means, for example, that Worker Trait Group 07.06, Clerical Machine Operation, is coded to reflect that most typists perform their work using sight. This does not mean that if a person is blind, she/he cannot be a typist. It simply means that if a blind person wants to be a typist, she/he will need to perform the job duties using somewhat uncommon techniques. The fact is that one can type from dictation. An Opticon can be used to "read" what has been typed and to know where to align the carriage to make necessary corrections. The Physical Demands code is a quick way to identify the need for a job analysis and possibly some job modifications to enable an individual with a disability to perform the occupation of their choice.

The multi-sensory involvement of the students in the keysorting process helps maintain their interest and motivation. It also is a quick reality-testing device. A student quickly learns that there are no Worker Trait Groups and consequently, no occupations which combine two mutually exclusive factors such as Work Activity 3, activities of a routine, definite organized nature and Work Activity 5, activities resulting in recognition or appreciation from others. We have found that few students can complete the Keysorting process completely independently and identify Worker Trait Groups which indeed match their preferences. Thus, it seems relatively unimportant that it requires the ability to read printed information. Those who cannot read due to a visual impairment or learning disability simply receive a little more assistance than other students.

Once a student identifies the Worker Trait Groups which match his/her preferences and basic abilities, she/he can learn about the Worker Trait Group by looking it up in AEL's Worker Trait Group Guide or in the U.S. Department of Labor's Guide to Occupational Exploration. Both publications avoid dated information such as wage and salary amounts. The Worker Trait Group Guide presents the following information for each of the 66 Worker Trait Groups:

- Brief description of the Worker Trait Group's occupations and work settings.
- Description and examples of the work tasks performed.
- Most important skills, abilities, and interests needed to perform well.
- Clues to help the students use their personal experiences to decide if they have or can develop the necessary skills, abilities and interests.
- Training and experience required.
- Qualifications profile.
- Work Activities preferred by workers in the Worker Trait Group.
- Work Situations preferred by workers in the Worker Trait Group.
- Functions related to data, people, and things.
- Physical Demands (be certain to review the cautions discussed above regarding the Keysorting process).
- Working Conditions.
- Aptitudes required.
- General Education Development (level of learning and reasoning required).
- Ways to obtain necessary preparation and training.
- Listing of selected occupational titles with fourth edition DOT codes.

The average reading level of the Worker Trait Group Guide is 6.7, but the content is appropriate for high school and adult students.

AEL is pilot testing audio tapes of the *Worker Trait Group Guide*. Hopefully, they will become available for purchase so blind students and non-readers can have independent access to the information. Chaffey College has received permission from AEL and McKnight to make Braille copies of the *Worker Trait Group Guide* (for use on our campus, not for general distribution). It is important when considering more expensive mediums such as tapes and Braille, that the information will not become as quickly dated as occupational briefs with wage and salary, and employment outlook data.

After a student has considered the information regarding the WTG's of interest to him/her, she/he can locate more detailed information about specific occupations within those WTG's. This is relatively simple in an occupational information library organized according to the 66 WTG's, DOT numbers or the six Holland Occupational categories.

Beyond the information that can be assembled in a career center, it is important for students to personally come in contact with people working in occupations they are considering for themselves. By following the information interviewing suggested by Richard Bolles in *What Color Is Your Parachute?* and *The Three Boxes of Life*, students accomplish five major things for themselves.

1. They learn about the realities of the world of work - its expectations, its rewards and some of its pitfalls.
2. They learn what is *really* required to succeed in the occupations they are considering, from a source that is the most credible.
3. They are exposed to related occupations.
4. They make personal contacts who can help them get into their chosen field in the future. If a student has a disability, the potential employer has seen the student as a person not as a handicap looking for a job.
5. Students with disabilities can begin exploring job modifications for themselves in the least threatening way possible, both for themselves and for the potential employers.

C. INFORMATION INTERVIEWING

Briefly, here are the procedures for information interviewing that we have adapted from the "parachute technique".

1. *Practice Field Survey*. The student is asked to select something she/he feels enthusiastic about, not necessarily school or work related, but something she/he would *enjoy* finding out more about. Students go out individually or, for calming of their fears, in pairs.
    a. They identify a person or organization in the community who might do whatever it is they are interested in (widget flying).
    b. They contact the local widget flying club and ask to speak to someone who has a lot of widget flying experience, preferably the president of the club.

c. They ask the president for just ten minutes of his/her time for them to ask him/her about widget flying. She/he, being flattered that someone would want him/her to talk to them about one of the things she/he is most enthusiastic about in life, will probably talk to them, especially since it's only ten minutes they are asking for.

d. The student(s) ask the person they are interviewing questions similar to the following:

   1) How did you get into ______widget flying______?
      (whatever the person does which the student wants to find about)

   2) What do you like most about it?

   3) What do you like least about it?

   4) Where else could I find people who do ___widget flying___?
      (whatever the person does)

2. Field Survey. Now that the student has experience, hopefully fun experience, with information interviewing, she/he is ready to begin interviewing People Who Have the Power to Hire who also have knowledge about occupations related to the student's abilities and preferences.

   The student now goes through steps a. through d. above alone or in pairs. In step a., she/he selects a worker at the top of a field which has factors that are most important to the student to find in an occupation. When she/he gets to the last question in step d., she/he asks a question similar to:

   Where else could I find people who ______work outdoors______ and
   (whatever factor was most important)

   have lots of contact with people, but not in sales?
   (name other factors that are important)

3. The student always sends a thank-you note to the person she/he interviewed.

For high school students, parents can get involved in the vocational planning process by participating with the student in selected information interviewing. Parents of one student can be enlisted to be interviewed by other students who are interested in what they do.

Labor Market Survey By Telephone

A student may wish to perform a labor market survey over the telephone. Any guide to local employers can be consulted in order to develop a list of approxiamtely ten contacts. The list can be derived from the yellow pages of the local telephone directory, from an industrial directory, through the chamber of commerce, or by consulting the local labor market information developed by the career or job placement offices, either on-campus or off-campus (e.g., Employment Development Department).

The student can use the list of contacts to telephone the personnel manager/owner/employee director and then ask any of the following questions (after explaining the purpose of the call): 1. How many _______ do you employ? 2. Do you expect business to improve? 3. When do you anticipate hiring _______ again? 4. Would you hire a person with a __________ limitation? 5. What are the entry-level wages and when can raises be expected? How much can a _________ earn, with experience? 6. Could I fill out a job application; and if not, when do you expect to accept applications?

An alternative to a labor market survey as described above is to consult the California Occupational Guide (available through the EDD), for statewide employment projections. A very rough estimate of job opportunities can be made by reviewing the "Help Wanted" ads in local newspapers. Or, the local EDD office may offer several sources of information regarding local job opportunities.

JOB ANALYSIS AND MODIFICATION

Introduction to Job Analysis

Sometimes the career exploration process reveals occupations that almost match the individual's capabilities.

Job analysis provides enough data to show the individual whether or not performing the job's required tasks is possible. If the analysis shows incongruence between abilities and job demands, the evaluator should consider the possibility of modifying the person (by providing work aids, training, or other compensatory innovations), or the job (by changing a job duty, enlisting assistance from other workers, or by adjusting job station environments, for instance, using color codes instead of numbers to identify parts).

"The less modification the better" is the general rule of thumb, as successful employment in a vocation often depends on the ability to move from one employer to another. A new employer may not be willing to provide the job modifications instituted by the previous employer. The individual's dependence on one coworker to read instructions to perform a job could cause problems if the coworker is absent. Dependence on special devices and cooperation of employers can be a blessing or a curse. So, the consequences and implications of job or person modifications should be considered before resorting to them.

The same process can be applied to training programs. Analysis of training can be more complex than analysis of a job, as one training program may entail several courses. The effectiveness of using training program analysis depends on how closely the training matches "real" jobs. Unless tools, working conditions, and job tasks are similar between training and the actual job, there can be little assurance the trainee will be able to perform the job.

JOB ANALYSIS

Job analysis is a review of the required skills, physical demands, environment, and procedures of specific jobs. It is accomplished through on-site evaluations. There is really no mystery to the process. It simply requires good observation skills, and a systematic approach to the analysis.

The purpose of a job analysis can be to provide future job-seekers with information, or to allow vocational guidance personnel to match applicant profiles with job profiles. For our purposes, there are two general viewpoints in conducting a job analysis, the viewpoint of the employer, or that of a specific disabled client. In this section, we will be dealing with job analysis from the employer's viewpoint, and with the student's in the job modification section.

Anyone can conduct a job analysis. Simply by contacting any employer and explaining the types of students you work with, and your purpose for conducting the analysis, you will normally find that most employers are quite willing to cooperate. Keep in mind that you need to actually see the job site and the job you are analyzing in progress to make an accurate assessment. Having the employer describe the job to you over the phone, or sitting in his or her office is not a valid way in which to conduct an analysis. In addition, it is often wise to question co-workers, and workers who are involved in the actual job. Whenever possible, concentrate on breaking down the job you are analyzing into its' component parts, or each separate task. This will pave the way for easy modification when trying to place a student with a disability in the job.

The analysis of a job encompasses the same comprehensiveness as that demanded of a person-evaluation. Necessary information includes: physical demands, working conditions, a narrative description of tasks, educational and training requirements, environmental exposures, machines, tools, equipment, work aids, materials and products involved. Each of these factors must be broken down into details. For example, physical demands should include amount (frequency, time spent, and degree of effort) of standing, walking, carrying, climbing, lifting, pushing, pulling, balancing, stooping, bending, crouching, kneeling, crawling, twisting (of hands, trunk, neck, etc.), reaching, handling, and any other task involved.

Unless sufficient data is generated in the job analysis, a critical factor may be overlooked which could result in a person attempting and failing ajob in which considerable investment may have already been made. For instance, although medical information revealed that Susan is allergic to certain chemicals, she was referred to a job for which she was almost perfectly suited, electronics assembly, but after placement, she found she could not tolerate the presence of solder flux and had to quit her job.

The job analysis approach can be used in several ways. A file of jobs which have been analyzed can be made available to students who have completed a vocational evaluation and are now exploring possible jobs to pursue. Or, the student can be taught to analyze a job so that she or he may interview employers or observe jobs being performed and decide whether or not the job matches personal characteristics.

We have provided you with two types of job analysis forms - one representing a private rehabilitation approach and one from the U.S. Department of Labor. The forms are relatively self-explanatory, and should give you an idea of systematic approaches to job analysis.

JOB MODIFICATION

Job restructuring or modification is a process of determining, by observation, how to modify a particular job in order to allow a specific disabled client, or a particular type of disabled client, to successfully perform all of the job tasks to the requirements of the employer.

Although an individual involved in vocational guidance may never be directly responsible for job restructuring or modification, understanding the process is important to provide the guidance counselor with a basis for directing disabled clients into jobs which present the potential for practical restructuring.

On-site job analysis is perhaps the most appropriate way in which to begin such a process. The private rehabilitation job analysis form (see Figure 1) which you have been introduced to is an example of job analysis procedures which emphasize points important for any disabled client: degree of hand strength; mobility; lifting; odd positions; perceptual requirements; verbal/written communication requirements; environmental factors; architectural barriers, etc.

If an evaluation of a disabled client has already been conducted, the evaluator or whoever is conducting the analysis, can approach the process with the specific identified limitations of the client in mind. If analysis comes first, the evaluator can approach the job analysis with the full range of possible disabilities in mind, and then evaluate the client later, with the requirements of the specific job firmly in mind.

In addition, it is often possible, if the employer is cooperative, to place the client on a trial basis at a job site if there are still questions as to the specific modifications which need to be made. Modifications are made not simply to make the client capable of performing the job, but also to make him or her more capable of competing successfully with non-disabled clients.

The modification process then begins with a comparison of the requirements and conditions of the job with the full range of abilities and limitations of the client, and the identification of areas of conflict. In this process, the needs of the employer must be considered as carefully as those of the client, since an employer can only restructure jobs so far before it becomes economically impractical.

The next step is to take the areas of conflict between job requirements and client abilities and accept them as areas needing possible modification. Modification of a job generally falls in two broad categories: physical and procedural, both of which are related to worker trait groups. Physical modifications relate to the what and how questions on the job analysis form, and include: modified tools or work area alterations; mobility and strength factors; environmental factors; lifting; odd positions; perceptual requirements; and physical tolerance demands, and so on. Procedural changes relate to the way in which the job is accomplished. Thus, complexity of the job, number of tasks involved, personnel involved, the degree of supervision, and the way in which the job relates to others in the industry, all fall in the category of procedural changes.

Once the evaluator/counselor has a list of areas of conflict, the process moves to a categorization into physical and procedural modifications. Physical tend to be the most expensive for the employer, but procedural changes tend to have the most impact on the industry as a whole, since they more often involve the functions of other workers, or the general labor distribution of the plant. Each area of conflict should have a suggested physical or procedural modification. Very often, this involves breaking a task down into its' smallest physical and procedural components by the evaluator/counselor. An evaluator is then in an ideal position to create modifications in the evaluation unit itself in order to determine the client's ability to function more efficiently with the modification. Obviously, there are limitations to this procedure, as there are many machines which can't be duplicated in an evaluation unit. A counselor may not have this avenue of investigation and may wish to develop an on-the-job trial.

Eventually, one must go to the employer with a suggested modification. However, before suggesting the modification, emphasis should be placed on the strengths of the particular disabled worker, and the benefits of modifying the job to fit the worker. It is often helpful to point out to the employer that virtually every job situation is modified at one point or another to fit non-disabled workers who have more or less training than other workers. Job restructuring is just a step further along the same line. In addition, disabled workers are, as a group, happy to discover that, with modifications, they can function as successfully as non-disabled workers. This tends to make them more likely to be cooperative, motivated workers, with loyalty to the company which demonstrated enough interest and concern to restructure a job for them.

The employer will be regaining any initial expenditure on modifications through the long-term employees he can gain. In addition, the disabled worker is aware that such modifications take effort, and that comparable jobs will be difficult to find. Thus, the worker will tend to work industriously to maintain his employed status.

The hoped for end result of this contact with the employer is that once he/she has understood the possibilities of gaining long-term employees, and the range of possible modifications, the employer will become actively involved in the modifications. This is a necessary step for effective restructuring, because no matter how knowledgeable the evaluator is about the needs of the particular industry, the employer is the only one who can efficiently and perceptively modify jobs in a way that is least disruptive, and most economically feasible for the company.

Very often, the last step is to have the disabled worker attempt the modified job on a trial basis, with the employer taking an active role in determining the success of the modification in equalizing non-disabled and disabled workers' performances.

On the following page are examples of possible job modifications, two situations in which you may practice job restructuring yourself and a suggested method for utilizing job analysis formats to: 1) assess your student's abilities and limitations and; 2) match their job analysis profile to specific job requirements.

There is no magic formula to job modification. It simply takes careful observation. Modifications do not have to be elaborate or sophisticated. The following are provided as examples of simple modification.

JOB MODIFICATION EXAMPLES

JOB DESCRIPTION	DISABILITY & IDENTIFIED PROBLEMS	JOB MODIFICATIONS
Assembly of electronic parts involving seven separate stages and counting of finished products on an inventory sheet.	Client can't read the inventory sheet, or remember the assembly steps, due to mental retardation.	- Trade functions with other workers. - Picture board of each step in order placed at work station. - Automatic counter for each item completed.
T.V./Radio Repair	Client is a paraplegic and is unable to lift T.V.'s and radios from floor to work bench, or move around shop to accumulate tools.	- Have other workers lift T.V.'s - Develop automated lift - Adjustable height table on rollers - Lowered counter (sales) and work bench. - Widened doors and work space.
Cashier (Supermarket)	Client is suffering from chronic back pain and cannot tolerate sitting or standing too long. In addition, the client is unable to lift boxes in order to stock and price items on the shelves.	- Alternating height stool with adjustable back. - Inclined foot rest to elevate legs. - Adjustable height table for boxes. - Do only pricing, no stocking. - Extendable rod with gripping claw, or price stamper on end.
TV News Cameraman	Hemiplegia with right side paralysis, which creates inability to handle mobile camera. Not mobile enough to handle "on-the-scene shots. Used to be right handed before hemiplegia, clumsy with left hand.	
Pipefitter	Left arm amputee who can't lift, position or hold pipes for cutting and fitting.	

JOB MODIFICATION EXERCISES

PRESENTING VOCATIONAL BARRIER:

Client is totally blind in both eyes, and is interested in becoming a trainer for seeing-eye dogs. This is a highly specialized task, calling for the ability to see that the dogs being trained are correctly achieving the task called for, and seeing their errors in a manner which allows for prompt correction. Trainers are also called upon to groom, feed, and care for the proper housing of their dogs, as well as the blind clients who are being trained with their dogs.

MODIFICATION NEEDS:

SOLUTION:

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JOB MODIFICATION EXERCISES

PRESENTING VOCATIONAL BARRIER:

Client has a condition of rheumatoid arthritis which is primarily restricted to both hands, and fingers. Client has a desire to continue with his past occupation of sign painting, but this vocation calls for the ability to maintain varying manual/finger positions, change them easily and fluidly, and to hold and use the brushes in a delicate, precise manner. Client cannot currently maintain hand positions easily without cramps which force the hands into awkward positions. Client is then forced to stop painting and find someway to "mold" his hands into the correct position. He does not currently have the ability to fluidly change hand positions, or to maintain an even, precise stroke, with the brushes.

MODIFICATION NEEDS:

SOLUTION:

JOB MODIFICATION WORKSHEET INSTRUCTIONS

On the following page are two examples of a job analysis form. You will note that the first demonstrated use of the form is to complete a normal job analysis, but that the second actually takes a disabled client and analyzes his job-related strengths and limitations utilizing the same form. These examples demonstrate that job analysis techniques can be used for several different reasons: (1) you can analyze jobs and keep a constantly growing file of job profiles for future reference; (2) you can analyze students and compare their profiles to those of various jobs; (3) you can analyze education and social situations utilizing the same form in regard to physical requirements and simply add emotional/psychological factors as they apply; (4) you can develop/recommend training, educational, vocational modifications; assistive devices; or therapy to improve job related skills.

When completing a job analysis, the form is self-explanatory. When utilizing the same form or a modification to analyze the client's abilities and limitations, simply look at each part of the form from the viewpoint of the client's functional ability.

For instance:

Salary:	List the salary desired by the student.
Hours of Work:	List the hours the student is willing to work.
Safety Equipment:	Special equipment needs of the client regardless of the job (i.e., prosthetic/orthotic devices, wheelchair, etc.).
Tools:	Tools that you have determined to be difficult for the student to utilize without modification.
Description of Job Tasks:	List general description of student's disability, and behavioral consequences.
All Physical Skills (Walking, Lifting, etc.):	List student's abilities as you know them using the same hour, and intensity (degree) measures as on a job analysis.
Environmental, Temperature, Working Surfaces, and Hazards:	List all environmental factors which may create discomfort, inefficiency, or danger to the student.
Training, Educational, Experience, Union:	List all client/student education, experience and past business/industry affiliations which may have bearing on future employment.
Modifications:	List all modification needs that may arise. You can determine this by looking at the form when it is completed and noting areas of deficit, such as "cannot bend at the waist". Make preliminary notes and recommendations regarding possible modifications for future use.

In comparing actual job analysis forms with student job profiles you will be able to determine how many modifications must be developed, and have a practical beginning point to accomplish them.

JOB ANALYSIS AND MODIFICATION EXAMPLES AND FORMS*

JOB ANALYSIS

RE: Joe Schlabotski

JOB TITLE: Pipefitter

DOT CODE: 863.281-030

SALARY: $15.32/hour

EMPLOYER: Boyd Plumbing

SALARY RANGE FOR OCCUPATION: 11.13-16.56/hr.

MACHINES: None

SAFETY EQUIPMENT: Helmet, gloves, mask, apron, steel-toed boots.

DATE OF ANALYSIS:

TYPE OF INDUSTRY: Construction

CONTACT PERSON: William Boyd

JOB SITE: Boyd Plumbing, Podunk, USA

HOURS OF WORK: 8-5 (day hours)

AVERAGE WORK WEEK: 40 Hours

OVERTIME: Rarely

TOOLS: Welding torch, pipe cutters, pipe threaders, wrenches, hammers, pliers

DESCRIPTION OF JOB TASKS:

In new construction work, plumbers/pipefitters must determine where pipes are to be placed according to the blueprints. They plan the job, determine the size and type of pipe to be used, and select the proper fixtures. They lay out the exact route the piping will take. The pipe is cut to correct lengths and fitted with valves and other types of connections. Pipes and connections may be copper, glass, lead, plastic, ceramic, or steel.

Pipefitters must be able to cut, bend, and join these materials into complete systems. They braze, weld, glue, cement, solder, chemically bond, or thread joints. Generally, the pipefitter must cut holes in unfinished beams, ceilings, floors, roofs, and walls through which the pipes are passed. They caulk connections to prevent leaking by forcing sealant material into joints with a caulking hammer or other special tools. The pipes are connected to water supplies, or sewage systems and the work is checked for leaks.

The work is strenuous and active. Frequently, pipefitters are on their feet for long periods of time, and they may work in cramped, damp, or dirty areas.

The following section deals with the physical demands of the job. Symbols and terminology used repeatedly are defined as follows:

NP - Not Present:	Activity or condition does not exist.
O - Occasionally:	Activity or condition exists up to 1/3 of the time.
F - Frequently:	Activity or condition exists from 1/3 to 2/3 of the time.
C - Constantly:	Activity or condition exists 2/3 or more of the time.

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*Taken from *Vocational Guidance for Handicapped Students: A Training Program* (1980).

PHYSICAL REQUIREMENTS

(Intermittent = I)
(Continuous = C)

	1-2 hrs.	2-4 hrs.	4-6 hrs.	6-8 hrs.	Overtime	I	C
STANDING:						X	
WALKING:				C		X	
SITTING:	0					X	

	Min. lbs.	Max. lbs.	Frequency	Min-Max Distance	Ex.
LIFTING:	15 lbs.	75 lbs.	X		Bundles of Pipe
CARRYING:	15 lbs.	75 lbs.	X	10 ft.	Bundles of Pipe

	NP	O	F	C	Est. lbs. or examples
PUSHING:		X	X		5 lbs. pipe sections
PULLING:		X			5 lbs. pipe sections
BENDING:			X		While cutting/fitting pipe
TWISTING AT WAIST:			X		While cutting/fitting pipe
STOOPING:			X		While cutting/fitting pipe
CROUCHING:			O		While cutting/fitting pipe

	NP	O	F	C	Est. lbs. or examples
KNEELING:			X		While cutting/fitting pipe
CRAWLING:		X			While checking for leaks
CLIMBING:			X		While cutting holes
BALANCING:			X		While cutting holes
REACHING OVERHEAD:			X		While cutting (max-20 ft.)
IN FRONT:			X		While cutting/fitting pipe
BELOW WAIST:			X		While cutting/fitting pipe
HANDLING:				X	All tasks
FINE DEXTERITY:		X			While cutting/fitting pipe
GROSS DEXTERITY:				X	All tasks

HAND/WRIST MOVEMENT: (DESCRIBE IF SIGNIFICANT) All tasks involve average to above-average gross manual/finger dexterity.

EYE/HAND/FOOT COORDINATION: (DESCRIBE IF SIGNIFICANT) Climbing ladders, set-up of cutting tools

	NOT REQUIRED	PREFERRED	NECESSARY
VISION:			X
HEARING:	X		
TALKING:	X		

ENVIRONMENTAL FACTORS

INSIDE: ______ %

OUTSIDE: ______ %

CONDITIONS:

X	X	X	X	X
Dust	Gas	Fumes	Mist	Poor Ventilation
X	X	X	X	
Chemicals	Odors	Humidity	Vibrations	

TEMPERATURE:

		X	
Low	High	Change	

WORKING SURFACES: Ditches, uneven ground covered with obstacles (tools, materials, etc.)

HAZARDS: Burns, falls, injury from tools, falling objects, steam

TRAINING REQUIRED: 4 Year Apprenticeship

EDUCATION: High School Diploma

EXPERIENCE: Apprenticeship

UNION: Plumbers and Pipefitters Union

NEEDED MODIFICATIONS:

JOB MODIFICATION FORM

RE: Joe Schlabotski

JOB TITLE:

D.O.T. CODE:

SALARY: Would like to start at $10/hr.

EMPLOYER:

METHOD:

CLIENT SUPERVISED 2 WORKERS FOR 10 YEARS.

SALARY RANGE FOR OCCUPATION: will accept $8-12.00/hr.

MACHINES: Can operate any machine which does not require bimanual dexterity.

TYPE OF INDUSTRY:

CONTACT PERSON:

JOB SITE VIEWED/LOCATION OF SITE:

HOURS OF WORK/SHIFT: Prefers 8-5

AVERAGE WORK WEEK: Prefers 40 hours

DAY: Would not work nights or weekends

OVERTIME: Rarely

TOOLS: Has used: welding torches, pipe, pliers, cutters, pipe threaders, wrenches, hammers

SAFETY EQUIPMENT: Client has protective pad over stump, and may require extre protection glove for right hand.

DESCRIPTION OF CLIENT DISABILITY:

Mr. Schlabotski's left arm was amputated at the shoulder as a result of an automobile accident. It has been noticed that his right arm and hand have maintained full strength and dexterity/flexibility. Limitations appear to be in tasks which require bimanual dexterity, bimanual strength, lifting/carrying power, and holding capability. Client is not suffering pain in his stump, and temperature extremes do not appear to cause unnecessary discomfort. Vibrations at the point of amputation do appear to create some pain. Mr. Schlabotski appears to have accepted his disability and is eager and confident in his ability to return to work. He realizes that his past job of pipefitting may be difficult to return to, but he is currently interested in attempting this work to determine if modifications can be arranged which can allow him to return to the job.

The following section deals with the physical demands of the job. Symbols and terminology used frequently are defined as follows:

NP	Not Present:	Activity or condition does not exist.
O	Occasionally:	Activity or condition exists up to 1/3 of the time.
F	Frequently:	Activity or condition exists from 1/3 to 2/3 of the time.
C	Constantly:	Activity or condition exists 2/3 or more of the time.

PHYSICAL REQUIREMENTS

						INTERMITTENT	INTERMITTENT	CONTINUOUS
STANDING:				C		X		
	1-2 hrs.	2-4 hrs.	4-6 hrs.	6-8 hrs.	overtime			
WALKING:				C		X		
	1-2 hrs.	2-4 hrs.	4-6 hrs.	6-8 hrs.	overtime			
SITTING:	0					X		
	1-2 hrs.	2-4 hrs.	4-6 hrs.	6-8 hrs.	overtime			

LIFTING:	15 lbs.	25 lbs.	X	Ex.: Bundles of pipe, if tightly wrapped	
	Min. lbs.	Max. lbs.	Frequency		
CARRYING:	15 lbs.	25 lbs.	X	20 ft.	Ex.: Bundles of pipe
	Min. lbs.	Max. lbs.	Frequency		
PUSHING:		X			51 lbs. - pipe sections
	NP	O	F	C	Est. lbs. or describe examples
BENDING:				X	While cutting/fitting pipe
	NP	O	F	C	Est. lbs. or describe examples
PULLING:				X	5 lbs. - pipe sections
	NP	O	F	C	Est. lbs. or describe examples

	NP	O	F	C	
TWISTING AT WAIST:			X		Ex.: While filling/cutting pipe
STOOPING:			X		Ex.: While fitting/cutting pipe
CROUCHING:			X		Ex.: While fitting/cutting pipe
KNEELING:			X		Ex.: While fitting/cutting pipe
CRAWLING:		X			Ex.: While checking for leaks
CLIMBING:			X		Ex.: While cutting pipe holes
BALANCING:		X			Ex.: While cutting pipe holes (Both climbing & balancing may need help or safety equipment.)
REACHING OVERHEAD:			X		Ex.: While cutting
IN FRONT:			X		Ex.: While cutting/fitting pipe
BELOW WAIST:			X		Ex.: While cutting/fitting pipe
HANDLING:				X	Ex.: All tasks. (Client uses one hand.) (For all manual tasks can only use one hand.)
FINE DEXTERITY:					
HAND:					Ex.: Ex. (Good dexterity with one hand.)
FINGER:		X			Ex.: Ex.: (Good with right hand.)

HAND/WRIST MOVEMENT: (DESCRIBE IF SIGNIFICANT) Client has above-average dexterity/flexibility, and strength with right hand.

EYE/HAND/FOOT COORDINATION: (DESCRIBE IF SIGNIFICANT)

	Not Required	Preferred	Necessary
VISION:			X
HEARING:			X
TALKING:			X

ENVIRONMENTAL FACTORS

INSIDE: 100 %

OUTSIDE: 100 %

CONDITIONS:

Dust	Gas	Fumes	Mist	Poor Ventilation

Chemicals	Odors	Humidity	Vibrations	
			x	Vibrations will cause discomfort only directly applied to point of amputation.

TEMPERATURE:

Low	High	Change	
		X	Extreme temperature changes might cause discomfort, but no evidence so far. Insulated stump pad should eliminate possible problems.

WORKING SURFACES: Ditches, uneven ground covered with obstacles (tools, materials, etc.) construction, scaffolding, might present some balance problems for Mr. Schlabotski.

HAZARDS: Balance and dropping objects he is carrying or lifting will be the most likely hazards of Mr. Schlabotski's disability.

TRAINING REQUIRED: (Spec. skills)

EDUCATION REQUIREMENTS: Mr. Schlabotski is a high school graduate. He has completed Union-sponsored plumbing/pipefitting training over a 4 year period. Client also has completed two years of community college training in primarily engineering, blueprint, and construction.

EXPERIENCE REQUIREMENTS: Mr. Schlabotski has worked as a pipefitter for 15 years. Prior to that, he was a construction laborer and plumbers assistant for 5 years.

UNION AFFILIATION: Plumbers and Pipe Fitters Local #234

ANALYST: ______________________

TITLE: ______________________

ANTICIPATED MODIFICATIONS:

Lifting/Carrying: Mr. Schlabotski will have difficulty lifting or carrying anything over 25 lbs., unless the object is compact, or as in the case of pipe bundles, well bound. There are several obvious solutions to such an obstacle: (1) Adjustable handle grip to attach to any object carried; (2) "hook" prosthetic to assist in handling the object; (3) physical therapy to increase grip and arm strength; (4) a cart for transporting heavier objects; (5) assistance of other workers.

Balancing/Climbing: Mr. Schlabotski will have some difficulty safely climbing with one hand. Some possible modifications might be: (1) "hook" prosthetic; (2) safety "non'slip" shoes; (3) a safety belt to climb within; (4) completely enclosed ladder; (5) a power lift; (6) restructure job so he does not have to climb, or that someone else cuts holes for him.

Handling/Reaching Overhead/Dexterity: All manual tasks will have to be reviewed on the job site to determine modifications which will help Mr. Schlabotski in performing what are normally bimanual tasks. Possible modifications are: (1) different ends for prosthetic depending on purpose, "hook", "claw", etc.; (2) clamps for holding objects in place, etc.

U.S. Department of Labor
Manpower Administration

OMB - 44-R07
Estab. & Sched. No. 071-3120-42

JOB ANALYSIS SCHEDULE

1. Estab. Job Title INFORMATION DESK CLERK, receptionist-clerk
2. Ind. Assign. ret. tr.
3. S.I.C. Code(s) and Title(s)

DOT Title Code 237-568
Ind. Desig. WTA Group: Information Gathering
Dispensing, Verifying & Related Work p. 258

4. JOB SUMMARY:

Answers inquiries and gives directions to customers, authorizes cashing of customers' checks, records and returns lost charge cards, sorts and reviews new credit applications, and requisitions supplies, working at Information Desk in department store Credit Office.

5. WORK PERFORMED RATINGS:

Worker Functions

D	P	T
Data	People	Things
5	6	7

Work Field 282-Information Giving Code
231-Recording

M.P.S.M.S. 890-Business Service Code

6. WORKER TRAITS RATINGS:

GED 1 2 [✓ 3] 4 5 6
SVP 1 2 [✓ 3] 4 5 6
Aptitudes G 3 V 3 N 3 S 4 P 4 Q 3 K 4 F 3 M 4 E 5 C 5
Temperaments D F I J [✓ M] [✓ P] R S T [✓ V]
Interests 1a [✓ 1b] [✓ 2a] 2b 3a 3b 4a 4b 5a 5b
Phys. Demands S [✓ L] M H V 2 3 [✓ 4] [✓ 5] 6
Environ. Cond. [✓ I] O B 2 3 4 5 6 7

7. General Education

a. Elementary 6 High School ____ Courses ____

b. College ____ Courses ____

8. Vocational Preparation

a. College none Courses ____

b. Vocational Education none Courses ____

c. Apprenticeship none

d. In-Plant Training none

e. On-the-Job Training 3 to 5 weeks by Credit Interviewer

f. Performance on Other Jobs none

9. Experience none

10. Orientation 1 week

11. Licenses, etc. none

12. Relation to Other Jobs and Workers

Promotion: From this is an entry job to Credit Interviewer

Transfers: From none to ____

Supervision Received: Credit Manager

Supervision Given: none

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13. Machines, Tools, Equipment, and Work Aids

Impressing Device - Small Hand-operated device, of similar construction to stapler with a nonmoving base and moveable upper arm containing inked rollers which are moved by a lever in the upper arm. Charge card is placed in a groove in the base, stand-up print facing up, and paper and bill positioned over card, then the upper arm is broughr down and level depressed to bring inked rollers over paper to make impression of card's print.

14. Materials and Products:

None

15. Description of Tasks:

1. Answers inquiries and gives direction to customers: Greets customers at Information Desk and ascertains reason for visit to Credit Office. Sends customer to Credit Interviewer to open credit account, to Cashier to pay bills, to Adjustment Department to obtain correction of error in billing. Directs customer to other store departments on request, referring to store directory. (50%)

2. Authorizes cashing of checks: Authorizes cashing of personal or payroll checks (up to a specified amount) by customers desiring to make payment on credit account. Requests identification, such as driver's license or charge card, from customer, and examines check to verify date, amount, signature, and endorsement. Initials check, and sends customer to Cashier. Refers customer presenting Stale Date Check to bank. (5%)

3. Performs routine clerical tasks in the processing of mailed change of address requests: Fills out Change of Address Form, based on customer's letter, and submits to Head Authorizer for processing. Files customer's letter. Contacts customer to obtain delivery address if omitted from letter. (10%)

4. Answers telephone calls from customers reporting lost or stolen charge cards and arranged details of cancellation of former card and replacement: Obtains all possible details from customer regarding lost or stolen card, and requests letter of confirmation. Notifies Authorizer immediately to prevent fraudulent use of missing card. Orders replacement card for customer when confirming letter is received. (10%)

5. Records charge cards which have been inadvertently left in sales departments and returns them to customer: Stamps imprint of card on sheet of paper, using Imprinting Device: Dates sheet and retains for own records. Fills out form, posting data such as customer's name and address and data card was returned, and submits to Authorizer. Makes impression of card on face of envelope, inserts card in envelope, and mails to customer. (5%).

6. Sorts and records new credit applications daily: Separates regular Charge Account applications from Budget-Accounts. Breaks down Charge Account applications into local and out-of-town applications and arranged applications alphabetically within groups. Counts number of applications in each group and records in Daily Record Book. Binds each group of applications with rubber band, and transmits to Tabulating Room. (10%)

7. Prepares requisitions and stores supplies: Copies amounts of supplies requested by Credit Department personnel onto requisition forms. Submits forms to Purchasing Officer or Supply Room. Receives supplies and places them on shelves in department store storeroom. (10%)

16. Definition of Terms

Stale Date Checks -- More than 30 days old

17. General Comments

None

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18. Analyst A. Yossarian Date 7/29/71 Editor M. Major Date 7/26/70

Reviewed by John Milton Title, Org. Credit Manager

National Office Reviewer W. Irving

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JOB ANALYSIS

Supplemental Readings

U.S. Department of Labor, Handbook for Analyzing Jobs, 1972. For sale by Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout, Menomonie, WI 54751 Price $3.00

U.S. Department of Labor, Guide for Analyzing Jobs, 1944, reprinted 1966. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 -- Price $ .25

U.S. Department of Labor, A Handbook for Job Restructuring, 1970. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 -- Price $ .55

Wisconsin State Employment Service, Materials from Job Analysis Institute, 1972. Materials obtained from the Eau Claire Wisconsin Office of the Wisconsin State Employment Service.

REPORTS

Uses of Reports in Vocational Evaluation

After a student has been evaluated, there will be a need for a report summarizing the evaluation. Documenting your work for a program evaluation might be one purpose of reports. Another purpose might be to inform other professionals working with the evaluated student as to the information you have gained. This could take the form of copying your reports to staff members who would review them before meeting together to decide on services to offer the student. Or, it may be that the student's Department of Rehabilitation counselor would like to coordinate services through the vehicle of a written report. Of course, the student enjoys rights of confidentiality, and should sign an information release statement before reports are copied to other parties.

The student also should be aware of the contents of a report for his/her own information and purposes. Confidentiality laws should be studied by the evaluator to avoid legal difficulties. Because students have the right to review their records, reports should be written in such a way as to avoid unfounded statements or recommendations by the evaluator. It is wise, therefore, to include supporting data whenever a conclusion is drawn. Statements should be qualified and tentative in language so that the "probability" nature of assessment is relied upon, rather than attempting to make unrealistic recommendations.

There are many report formats from which to draw. Although it is most appropriate to tailor each report to the specific characteristics of the evaluated student, there are general guidelines which should be followed in every report.

The student's name, age, referral source, and reason for referral should be presented which can be supplemented by other information. The specific question asked by the referring party, or reason for referral should be stated. Other preliminary data could include the student's telephone number, the length (dates) of the evaluation, the student's school identification number, and other items depending on information needs of your system.

Background information such as medical diagnosis, medications, and aids worn by the student can be mentioned.

A narrative account of the initial interview can be the next portion of the report, describing significant first impressions (described in behavioral terms), stated vocational interest of the student, his/her appearance, promptness in attending the appointment, vocational history, transferrable skills, diplomas, certificates, special training, educational background, and other information gathered from the initial interview.

The next section of the report can be a list of tests administered. The results may then be expressed in percentiles, T-scores, or other numbers, with norm group descriptions.

Next, the data can be pulled together to develop patterns in a discussion of testing results.

A summary may be needed to integrate background information with testing results.

The last section should consist of some recommendations for future action. Copies of test answer sheets or descriptions of tests may be appended to the report.

The McCarron-Dial Work Evaluation System Manuals contain case studies with examples of reports of persons having a wide variety of disabilities. Other manuals and texts are available for the evaluator to consult, among them Effective Report Writing in Vocational Evaluation and Work Adjustment Programs, from MDC.

The following report format was contributed by Larry Mattingly of Comprehensive Rehabilitation Services. It is an example of a check-off format which can be tailored to any campus by identifying unique needs and services available to students. Refer to the case examples in the appendix of this manual to see how this report format has been used for actual students.

VOCATIONAL EVALUATION RECOMMENDATIONS

I. VOCATIONAL EVALUATION

_____Further Vocational Evaluation not recommended at this time.

_____Not Ready for Vocational Evaluation

_____Ready for Job Training

_____Ready for Educational Program

_____Ready for Job Placement

_____In need of other services

_____Further Vocational Evaluation needed.

_____At lower level

_____At higher level

_____Because of absence

_____For vocational exploration and focus

_____Other____

_____Suggested areas of further Vocational Evaluation:__________

____

____

_____Other:____

____

____

II. INDIVIDUAL NEEDS OR ATTENTION

_____Counseling

_____Academic Counseling/Advisement

_____To clarify educational goals

_____To clarify vocational goals

_____Adjustment to disability

Counseling con't.:

  - _____Personal counseling
  - _____Psychotherapy
  - _____Other ____

- _____Other Services or Evaluation:
  - _____Speech Therapy Evaluation
  - _____Learning Disability Evaluation/Screening
  - _____Psychological Evaluation
  - _____Psychiatric Evaluation
  - _____Neurological Evaluation
  - _____Audiometric Evaluation
  - _____Opthamology Examination
  - _____General Medical Examination
  - _____Other ____
- _____Tutoring:
  - _____Reading
  - _____Math
  - _____Other ____
- _____Other Services:
  - _____Notetaker
  - _____Interpreter
  - _____Reader
  - _____Transportation to campus
  - _____Transportation on campus
  - _____Special Parking
  - _____Priority Registration
  - _____Large Print Materials
  - _____Transcriber Service

Other services con't.:

_____Tape Recorder
_____Mobility Assistance
_____Special Equipment____
_____Financial Aid____
_____Other____

_____Job Placement Assistance

III. SUGGESTED EDUCATIONAL PROGRAMS:

_____Educational Program not recommended at this time

_____Special Education
_____Survey of Physical Disabilities
_____Independent Living Skills for the Disabled
_____Prevocational Skills
_____Speech Therapy
_____Career Exploration
_____Braille____
_____Job Seeking Skills
_____Sign Language____
_____Directed Studies in Special Education
_____Other____

_____Developmental Learning:
_____Arithmetic Skills
_____Basic Reading
_____Developmental Reading
_____Personal Development
_____Other____

_____General Courses:

    _____Suggested Majors:______________________________________

    ____

    ____

    _____Suggested Courses:

    ____

    ____

    ____

    ____

    ____

    ____

    _____Tutoring:

    ____

    ____

    ____

    _____Appropriate Educational Program not available at Chaffey College:

        _____Unaware of location of program

        _____Available at______________________________________

        _____Ready for four year institution

        _____Ready for transfer

        _____Other____

IV. VOCATIONAL RECOMMENDATIONS:

_____Employment or Job Training not recommended at this time

_____Pre-Vocational Training______________________________________

_____Sheltered Workshop:

    _____Extended evaluation and rehabilitation

    _____Work Adjustment

Sheltered Workshop con't.:

_____Work Skill Attainment

_____Work Activities Center

_____Final or Extended Placement

_____Other____

_____Formal Job Training:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____On the Job Training:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____Direct Job Placement:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____Part-Time Employment:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

____Part-Time Employment while Attending School or Training:

____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

V. OTHER RECOMMENDATIONS:

____
____
____
____
____
____
____
____

WORK EVALUATION SUMMARY

Name:____ Date:_____________________

Social Security Number:____________________

TEST RESULTS

Skill Area:	Test and Testing Date:	Norm Group:	Percentile or Category												
			Below Average				Average					Ab.	Av.	Exec.	
			0	10	20	30	35	40	50	60	65	70	80	90	95
Verbal/ Reading			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Numerical Mathematics			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Abstract Reasoning			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Aptitude Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Dexterity Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Interest Inventory:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Work Samples:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*

TEST RESULTS

Skill Area:	Test and Testing Date:	Norm Group:	Percentile or Category												
			Below Average				Average					Ab.	Av.	Exec	
			0	10	20	30	35	40	50	60	65	70	80	90	95
Work Samples:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Other Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Personality Percept. Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
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			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*

CASE MANAGEMENT

The most effective means of providing services to a student calls for coordinating efforts of as many persons involved in the student's life as possible. Such persons may be: Resource specialist, career center coordinator, diagnostician, rehabilitation counselor, instructors, social worker, medical personnel (nurses, physicians, physical and occupational therapist, speech therapists, etc.), family, job placement coordinators, etc.

The expertise of many professionals can be drawn upon either on an individual consultant basis, or ideally, in team meetings. The evaluator should strive to enlist the cooperation of campus staff and other professionals. The advantages of a coordinated effort on behalf of a student can be pointed out in order to facilitate cooperation. Some advantages are: the more effective use of time and resources; quicker and more successful movement of the student toward meeting goals and objectives; allowing a greater number of providers of service to take credit for student successes (even though credit should be given to the student more than to anyone else); and solving problems which appear difficult to any one professional serving students with disabilities.

The evaluator can follow the model described below, or develop a system of case management tailored to suit the unique needs of her or his campus. Please refer to the examples provided in the "Selected Case Studies" section of the Appendix.

A student is identified as needing vocational evaluation services. The identifying party completes a referral form, refers the student to the evaluator, and awaits word on the outcome of the referral.

The evaluator notifies the referring party that the student has set an appointment for an interview, and an approximate date by which to expect a report.

The student attends the initial interview, provides background data to the evaluator, and negotiates a testing regimen, based on specific questions whose answers are sought through the evaluation process.

After testing and vocational exploration have yielded a number of vocational choices to the student, the evaluator conducts an exit interview at which time a tentative plan of action is decided.

A team meeting is held to discuss evaluation results and recommendations with various staff involved in that student's service provision. Team member individuals volunteer for or are assigned follow-up contacts or activities to ensure successful completion of goals and objectives. Team members can then monitor the student's progress, offer guidance when professional opinion indicates intervention, or perform continued work with the student.

The activities assigned to staff members are recorded on an Action Follow-Up Sheet, with projected dates of completion. Copies of the completed Action Follow-Up Sheet are circulated to all team members. At the next team meeting, activities due by that date are reviewed to determine the status of goals and objectives. Unanticipated problems may have arisen, and solutions are discussed by team members. The student continues to be listed on future Action Sheets until identified goals and objectives are attained.

ACTION FOLLOW-UP SHEET

STUDENT	TEAM REVIEW DATE	TEAM MEMBER RESPONSIBLE	SUGGESTED ACTIONS	FOLLOW-UP ACTIONS
John Doe	3/4/81	Bob	#1. Visit to the Braille Institute.	#1. Visit completed 3/19/81.
		Ted	#2. Prescriptive Instruction in Math.	#2. Instruction program developed, implementation to begin 3/25/81.
		Alice	#3. Referral to community counselor.	#3. No action due to student's reluctance to become involved in counseling.

(The actual form will be on legal size paper to offer us more room.)

This is an example of a possible follow-up sheet for the recommendations made at each Team Resource Meeting. It has become apparent to all of us that we need some way of determining that recommendations are being followed through on in an effective manner. The procedure for handling this could potentially happen this way: (1) I would be responsible for developing a new action follow-up sheet for each week that would include new recommendations, and any old suggested actions that have not been completed; (2) a copy of the follow-up sheet would be circulated to each team member the week prior to each team meeting; (3) team mebers would then record their actions and the date they completed them, or record 'No Action", and bring the completed sheets to the next meeting; (4) at the meeting, I would be responsible for conducting the review of actions taken or not taken, and recording the results on a master action follow-up sheet to be kept on file.

This is only a rough draft and you should feel comfortable with writing on it any suggested modifications, or different approaches to the process. Please review and return to me as soon as possible so that the results can be developed into a completed form to be discussed at the next team meeting.

VOCATIONAL EVALUATOR

HOW TO LOCATE VOCATIONAL EVALUATION SERVICES IN YOUR COMMUNITY

Not all agencies have the funds necessary to obtain work samples and other test batteries and employ a qualified vocational evaluator. However, there are community agencies which often have vocational evaluation services available. Some charge a fee which your agency or your client would be asked to pay. Others might have funding to cover the costs of the evaluation. Your state's Department of Vocational Rehabilitation or your state's department providing services to the developmentally disabled will often pay the fee for vocational evaluation.

To locate vocational evaluation services in your community, we recommend you inquire at agencies such as the following:

State Department of Vocational Rehabilitation
State Employment Office
Sheltered Workshops
Goodwill Industries
Veterans Administration
Veterans Hospital
Welfare Agencies
Probation and Parole Departments
Primary CETA Contractors
Hospitals with rehabilitation centers
Vocational training programs
State Workers Compensation Board

The above and similar organizations will not necessarily provide the vocational evaluation services themselves, but at least they are likely to know who in your community does provide such services.

HOW TO IDENTIFY QUALITY VOCATIONAL EVALUATION SERVICES

Once you identify local agencies which provide vocational evaluation services, how can you determine the quality and usefulness of the service which is offered? The vocational evaluator's competence and objectivity are of prime importance. Of next greatest importance is the selection of vocational tests and work samples the evaluator has available to use. The assessment environment is also important. The Committee on Accreditation of Rehabilitation Facilities (CARF) requires rehabilitation facilities to meet strict standards, so you may wish to use a CARF accredited vocational evaluation service.

You probably have located a trustworthy, skilled evaluator if you can answer affirmatively to the following questions. Has the evaluator demonstrated:

1. The ability to use basic vocational reference materials such as the Dictionary of Occupational Titles, The Occupational Outlook Handbook, and The Guide to Occupational Exploration?

2. The ability to articulate to the client a clear philosophy regarding the purposes, capabilities and limitations of vocational evaluation?

3. The ability to administer, score, and interpret a wide variety of vocational tests and work samples that reflect your local job market?

4. The ability to distinguish for you, the difference between vocational tests and work samples; the difference between interest and aptitude tests?

5. The ability to conduct job analysis and create job modifications?

6. The ability to integrate evaluation results with knowledge of the jobs, industries, employers, and resource agencies in your community?

7. Knowledge of the symptoms and functional aspects of whatever disabilities will be represented in the clients you will refer to the evaluator?

8. The ability to apply sound counseling techniques?

9. That she/he expects clients being evaluated to behave as adult workers (as opposed to children, clients, or students) and therefore will not hold back on demands placed upon the client "because Johnny or Susie might get upset"? (A good vocational evaluation should place demands on the client beyond what the evaluatee can perform, so as to determine not only what his/her full capabilities and limitations are, but also to objectively observe his/her reactions to pressure and "failure".)

10. A commitment to conducting the evaluation for as many hours per day as possible?

11. An evaluation plan that calls for two or more samples or tests for every factor evaluated?

12. The ability to objectively report observations, rather than relying upon what is communicated about the client through other people's reports?

13. Consistently understandable reports that avoid labels, emphasize functional descriptions and offer concrete suggestions?

14. A practice of discussing the evaluation results and recommendations openly with the client?

15. A commitment to keeping the evaluation results and reports confidential?

16. Dependability in submitting reports of results and recommendations within a week or at the most, two weeks from completion of the evaluation.

APPENDIX

REFERRAL FORM
VOCATIONAL EVALUATION
EDUCATIONAL RESOURCE CENTER

Referred By ____________________
Date ____________________
Case Manager ____________________

Student Name ____________________ ID # ____________

Address ____

Age ________ Date of Birth ____________ Phone ____________

Limitations (disability) ____________________________
____

Medications ____
____

Medical History (surgeries, diseases) ____________________
____

Glasses? ________ Hearing Aid? ________ Other Aids ____________
____

Highest Grade Level Achieved ____________________

Language Background ____________________

Psychological Background ____________________

Transportation/Mobility Skills ____________________

Reason for Referral ____________________
____

Specific Questions to be Answered ____________________
____
____
____
____
____

The following are attached, if available:

_____ Educational records or documents (IEP Required)
_____ Testing scores (most recent)
_____ Medical reports (most recent)
_____ Rehabilitation plan
_____ Psychological reports (most recent)

STUDENT FILE SEARCH GUIDE

Name ____________________

Student ID # ____________________

Counselor(s) ____________________

Diagnosis ____________________

____

____

Other Medical Problems ____________________

____

____

____

Medications (include dosage and frequency) ____________________

____

____

____

Previous testing data ____________________

____

____

____

IEP goals and objectives ____________________

____

____

____

Other significant information ____________________

____

____

____

VOCATIONAL EVALUATION

INTERVIEW

1. Name: ____________________ Interviewer: ____________________
Student I.D.# ____________________ Date: ____________________
Date of Birth: ____________________ Referral Source: ____________________
Telephone #: ____________________ Reason for Referral: ____________________

2. Educational History
A. Classes enjoyed most ____________________
Why? ____________________
B. Classes enjoyed least ____________________
Why? ____________________
C. Diplomas, Certificates, Degrees, Special Training ____________________
____
D. Hobbies, Interests ____________________
____

3. Vocational History (including military experience)
A.

Job Title	Employer	Dates of Emp.	Machines, Tools, Duties

B. Job enjoyed most ____________________
Why? ____________________
C. Job enjoyed least ____________________
Why? ____________________
D. Vocational strengths ____________________
____
E. Vocational limits ____________________
____
F. Transportation means ____________________
____

4. Medical
A. Diagnosis: ____________________
B. Medications: ____________________
C. Aides or Devices: ____________________
D. Permanent and Stationary Status: ____________________

STUDENT GOAL PROGRESS SHEET

Student ______________________________ Student ID# ______________

Address ______________________________ Quarter ______________

______________________________ Phone # ______________

Date	Goals or Objective	Activities & Dates	Current Status

Reasons for not completing goals or objectives:

Recommendations for future goals or objectives:

194

____
Signature Date

SELECTED CASE STUDIES

1. AZ - A person with a Learning Disability.
2. BY - A person with an Orthopedic Disability.
3. CX - A person with a Developmental Disability.
4. DW - A person with a Sight Impairment.

AZ - A Person With A Learning Disability

1. Referral

AZ had been diagnosed as having language processing difficulties. He had contacted a learning disabilities specialist at the time when courses were being scheduled for the upcoming quarter. The specialist had recently been asked by an academic advisement counselor to guide AZ away from his intended career goal of becoming a teacher. The concern was that AZ did not have the capability to succeed in either the academic program, nor in the teaching profession. AZ was a veteran, and previously had used most of his benefits in pursuit of an AA Degree in Drafting. The specialist referred AZ to the vocational evaluator, completed the referral form, and discussed AZ's presenting problem with the evaluator. The question was posed, "Does AZ have the ability to succeed as a teacher?" Additionally, "If AZ is evaluated as not being able to be a teacher, what vocational goal should he seek?"

2. Initial Interview

AZ contacted the vocational evaluator to set an appointment for the initial interview. AZ was given two interest surveys to complete and bring with him to the interview. He was also requested to bring employment information on all his past jobs. Meanwhile, the speciazl was notified by the evaluator when she could expect a report on the evaluation.

AZ attended his initial interview promptly. The evaluation process was explained to AZ by the evaluator. AZ discussed his feelings regarding testing and his expectations. He asked several questions about the evaluator's background, and appeared to be comfortable with the process. He was friendly, cooperative, and asked when the testing could commence. (See report form for interview on background data

The evaluator brought up the referral questions and AZ's language processing difficulties. AZ felt he could be a good teacher in spite of his language problems. The evaluator and AZ discussed several tests which could provide more information about alternative vocations should teaching not turn out to be possible. AZ agreed to undergo a screening battery, the McCarron-Dial Work Evaluation System, the Microtower (Bottle capping and packing, Electronic Connector Assembly, Payroll Computation and Want Ads Comprehension), and VALPAR Independent Problem Solving, in addition to the two interest surveys, the California Occupational Preference System and the Self-Directed Search.

3. Evaluation

During the eight one-hour evaluation sessions, AZ was engaged in vocational exploration. The AEL Worker Trait Group Guide and Keysort Deck were used to identify information about "Educational and Library Services" occupations. The career center offered AZ information regarding entrance requirements for academic programs leading to teaching credentials. AZ spoke with instructors about their experiences in training and working. Throughout the evaluation process, AZ and the evaluator discussed the meaning of the information explored. Testing data was integrated into the discussion.

4. Exit Interview

In the exit interview, the evaluator pointed out several patterns of factors which had emerged: relatively high interests and abilities in the areas of business and clerical work, arithmetic skills, hand dexterity, and (according to a previous testing) clerical speed and accuracy; relatively low areas of interest and ability in fine dexterity, verbal skills, and muscle power. AZ responded by agreeing that language mechanics could be a problem, and that occupations other than teaching might be better for him. However, he wishes to pursue teaching and decided to keep in mind alternative choices should he not succeed in his aspiration.

AZ learned several things about himself in the evaluation, as well as how to locate and use sources of occupational information. If his career goal does change, he could consider several alternative occupations for exploration: jobs similar to those he had held in the past, managerial or sales work, or clerical work. The evaluation process did not make AZ change his mind about becoming a teacher, but it did benefit him by expanding his knowledge about himself and the World of Work, and by developing greater independence in making systematic career decisions.

5. Case Management

AZ's evaluation was discussed in a subsequent team meeting. It was agreed that he would continue in pursuit of his goal of being a teacher but that his academic work would be monitored by the specialist who had referred him for the vocational evaluation. If it appeared that he was encountering difficulty at some point in succeeding in his courses, she would refer him to a career counselor for further assistance in vocational exploration.

The evaluation report follows.

VOCATIONAL EVALUATION

Student: AZ
Period of Evaluation: 10/9 through 11/19/80
Date of Birth: 12/8/80
Chronological Age: 32 years, 11 months

REASON FOR REFERRAL:

AZ was referred to vocational evaluation in order to determine vocational strengths and weaknesses, and to assist him in deciding whether or not teaching would be a sound vocational choice

DIAGNOSIS:

Language mechanics difficulty.

INTERVIEW:

AZ attended this and subsequent appointments promptly. He appeared to be an engaging, active person. He reported enjoying English and History courses more than math or art. He has earned an AA Degree in General Education, a Merit Award from the American Society of Architecture and Engineering, and an Honorable Discharge from the Armed Services. AZ's hobbies and interests include engineering. His job history began with the U.S. Geological Survey (1964-5) as a shipping and receiving clerk, for two summers. In 1967, he worked as a stock clerk for J.C. Penney's. AZ then entered the U.S. Military, conducting laboratory analysis of water from 1968-72. During 1973, he worked as a custodian at Chaffey College. From 1972-75, AZ worked as a drafts person at Southern California Edison, re-working maps for property tax assessment. He then worked at Loma Linda as a gardener. In 1975, AZ was a student with the American Institute of Foreign Studies in Europe. However, he reported not enjoying great success in learning foreign languages. Of his employment experiences, AZ liked the military the best because they "took care of him".

AZ's vocational limits, according to him, center around language problems. During the assessment process, he often remarked, "You understand, you understand," and "I know what you mean." Throughout the process, he was very friendly and cooperative, and expressed interest in his testing performances. AZ's stated interest was to enter the field of teaching to earn enough money to purchase a Corvette or build a mansion. During several testing sessions, he wore a suit "to appear as a professional". He apparently has modelled the professional role and reported that he had discussed working conditions, entrance requirements, and educational programs, with knowledgeable persons.

INTEREST SURVEYS:

AZ's California Occupational Preference System response indicated that he prefers Professional Business and Clerical areas above all others. His Self-Directed

Search code was "Enterprising", "Social", and "Conventional". According to Holland, this code is similar to managerial workers.

McCARRON-DIAL:

Sensory Testing revealed no substantial sensory deficits. However, AZ's interesting response to the HVDT should be noted. He dropped immediately the items in the "Texture" portion, which were terry-cloth and velvet, stating, "That's too feminine; I can't touch it."

Motor Testing reflected a greater ability to perform "gross", as opposed to "fine" motor tasks. AZ's Persistent Control (eye-hand coordination) and Kinesthetic Integration (balance) scores were substantially higher than his Muscle Power and Bimanual Dexterity ratings. Right-handed functioning was significantly higher than left (nondominant) functioning.

WORK SAMPLES:

Microtower (1219 Rehabilitation Client norms)

Hand dexterity	99th percentile
Finger dexterity	15th "
Arithmetic computation	86th "
Verbal comprehension	25th "

VALPAR, Independent Problem Solving (Seminole Community College Vocational Assessment norms)

42nd percentile

DISCUSSION:

AZ has apparently decided upon a career in teaching. However, his verbal abilities appear to conflict with the demands of teaching professions, which often call upon excellent verbal skills. AZ's difficulty with language may limit his success as a teacher. After exploring the demands of training and employment, AZ has had second thoughts, and is considering related work as a library aide. His decision to explore teaching appears to be established. Encouraging AZ to explore opportunities in-depth could assist him to discover the most appropriate career.

RECOMMENDATIONS:

1. AZ needs to develop alternative vocational choices to teaching in the case that he decides to discontinue that pursuit.

2. Because of his lengthy and fairly stable employment history, AZ could consider jobs similar to those he has held in the past, possibly as a shipping and receiving clerk, or as a laboratory assistant. These and other jobs, which may surface upon further vocational exploration, could be considered alternatives to teaching.

3. AZ should continue to develop his verbal abilities in order to enhance his career advancement and should avoid jobs requiring great muscular strength, "fine" work, and those involving a great deal of bimanual dexterity. He may acquire sufficient skills to perform some kind of managerial work.

Sales may be an occupation worthy of investigation.

4. Relative strengths to consider in vocational exploration include "gross" hand dexterity (right), arithmetic computation, eye-hand coordination, balance, and high interest in managerial and clerical work.

Preston Chipps Vocational Evaluator	Date

VOCATIONAL EVALUATION RECOMMENDATIONS

I. VOCATIONAL EVALUATION

____Further Vocational Evaluation not recommended at this time:

    ____Not Ready for Vocational Evaluation

    ____Ready for Job Training

    __X__ Ready for Educational Program

    ____Ready for Job Placement

    ____In need of other services

____Further Vocational Evaluation needed:

    ____At lower level

    ____At higher level

    ____Because of absence

    ____For vocational exploration and focus

    ____Other ____

    ____ Suggested areas of further Vocational Evaluation:

    ____

    ____

____Other: ____

____

____

II. INDIVIDUAL NEEDS OR ATTENTION

____Counseling

    ____Academic Counseling/Advisement

    ____To clarify educational goals

    ____To clarify vocational goals

    ____Adjustment to disability

Counseling con't.:

    _____Personal counseling
    _____Psychotherapy
    _____Other____

_____Other Services or Evaluation:

    _____Speech Therapy Evaluation
    _____Learning Disability Evaluation/Screening
    _____Psychological Evaluation
    _____Psychiatric Evaluation
    _____Neurological Evaluation
    _____Audiometric Evaluation
    _____Ophthamology Examination
    _____General Medical Examination
    _____Other____

__X__Tutoring:

    __X__Reading
    _____Math
    _____Other____

_____Other Services:

    _____Notetaker
    _____Interpreter
    _____Reader
    _____Transportation to campus
    _____Special Parking
    _____Priority Registration
    _____Large Print Materials
    _____Transcriber Service

Other services con't.:

____Tape Recorder

____Mobility Assistance

____Special Equipment________________________________

____Financial Aid________________________________

____Other________________________________

____Job Placement Assistance

III. SUGGESTED EDUCATIONAL PROGRAMS:

____Educational Program not recommended at this time

_X_ Special Education

____Survey of Physical Disabilities

____Independent Living Skills for the Disabled

____Prevocational Skills

____Speech Therapy

_X_ Career Exploration

____Braille________________________________

____Job Seeking Skills

____Sign Language________________________________

____Directed Studies in Special Education

____Other________________________________

_X_ Developmental Learning:

____Arithmetic Skills

_X_ Basic Reading

_X_ Developmental Reading

____Personal Development

____Other________________________________

WORK EVALUATION SUMMARY

Name: ______________________ Date: ______________

Social Security Number: ______________________

TEST RESULTS

Skill Area:	Test and Testing Date:	Norm Group:	Percentile or Category												
			Below Average				Average					Ab. Av.		Exc.	
			0	10	20	30	35	40	50	60	65	70	80	90	95
Verbal/ Reading			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Numerical Mathematics			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Abstract Reasoning	Cattel (5/13/80)	= 103	*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Aptitude Tests:	DAT (5/14/80)		*	*	*	*	*	*	*	*	*	*	*	*	*
	(Clerical Speed		*	*	*	*	*	*	*	*	*	*	*	*	*
	and accuracy		*	*	*	*	*	*	*	*	*	*	*	*	*
	highest score)		*	*	*	*	*	*	*	*	*	*	*	*	*
Dexterity Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Interest Inventory:	COPS (10/23/80)	Pro Bus	*	*	*	*	*	*	*	*	*	*	*	*	[✓ *]
		Clerical	*	*	*	*	*	*	*	*	*	*	*	*	*
	SDS (10/9/80)	E.S.	*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Work Samples:	Microtower	1219 rehab	*	*	*	*	*	*	*	*	*	*	*	*	*
	Bottle Cap & Pack	clients	*	*	*	*	*	*	*	*	*	*	*	*	[✓ *]
	Elect Conn Ass		*	*	[✓ *]	*	*	*	*	*	*	*	*	*	*
	Payroll Comp		*	*	*	*	*	*	*	*	*	*	[✓ *]	*	*
	Want Ads Comp		*	*	[✓ *]	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
	VALPAR	Seminole	*	*	*	*	*	*	*	*	*	*	*	*	*
	Ind Pro Solv	Cmty Coll.	*	*	*	*	*	[✓ *]	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
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			*	*	*	*	*	*	*	*	*	*	*	*	*

BY - A Person With An Orthopedic Disability

1. Referral

BY was referred by a campus specialist who, upon first contact, had decided that a vocational evaluation should be performed in that BY had recently been industrially injured and faced a major career change. She had not attained a permanent and stationary level so her private rehabilitation company counselor had not yet begun to work with her. Under Worker's Compensation mandatory rehabilitation, BY would be able to offer her own rehabilitation program in addition to any recommended by her assigned rehab vendor. Her diagnosis was degenerative arthritis of the right knee, which limited her from her usual and customary occupation as a physical education assistant.

2. Initial Interview

BY explained that she had already contacted a drafting instructor and had asked about her entrance into academic programs and employment. She had been informed that she could probably handle the coursework and that there were jobs after training. BY then recounted her employment history. She had worked as a receptionist, school bus driver, and nurses aide. Her most recent job as a physical education assistant had involved too much standing, walking, stooping and kneeling. BY's interests and hobbies included arts and crafts and interviewing people. She enjoyed working with children but could not locate a short-term training program to prepare for childcare work.

3. Testing

BY's COPS responses reflected a preference for working in the Professional Technology field. Drafting was one job listed in this category. However, BY's performance on the Bender Visual Motor Gestalt Test and the VALPAR Drafting Work Sample suggested a possible perceptual difficulty. Prior testing had revealed that spatial abilities (from the Differential Aptitude Test) were quite low; however, in order to confirm BY's limitation, she was administered the spatial relations sub-test of the Career Ability Placement Survey (CAPS). The score was in the second stanine. The various testing data was presented to BY, who decided that drafting may not have been her best choice.

The McCarron-Dial Work Evaluation results indicated that BY had relatively high muscle power and bimanual dexterity scores. These were confirmed with results from the Microtower Electronic Connector Assembly. It appeared that she had better "gross" than "fine" manual dexterity. The last test administered was the Independent Problem Solving Work sample from the VALPAR System. By scored at the 92nd percentile, as compared with San Diego Employed Worker norms.

4. Exit Interview

Based upon testing data and information developed through interviews and discussions, BY decided to visit the Employment Development Department to register for CETA eligibility, to locate job opportunities, and to tentatively search for jobs such as telephone operator, marketing research interviewing, or laboratory technologist. She had gained enough information so that she could either initiate vocational decisions and movement, or provide direction toward appropriate employment with her vocational rehabilitation counselor.

VOCATIONAL EVALUATION

Student: BY
Period of Evaluation: 11/3 through 12/19/80
Date of Birth: 7/14/39
Chronological Age: 41 years, 4 months

REASON FOR REFERRAL:

BY was referred for vocational evaluation services in order to determine the feasibility of drafting as a vocational choice.

DIAGNOSIS:

Degenerative arthritis, right knee (permanent and stationary).

INTERVIEW:

BY began the interview by explaining her status as a Qualified Injured Worker under Worker's Compensation Rehabilitation. She informed me that she had been referred to a private rehabilitation vendor, but wished to know if she was "good at drafting", and if not, other vocational choices she might wish to pursue. She had already discussed drafting with a college instructor, and had hoped to obtain vocational rehabilitation through a drafting program. She did not feel that a private short-term training program would be beneficial.

BY's employment history was interrupted by periods in which she had to care for her children. She had worked as a nurse's aide for one year part-time, in 1956. From 1968-70, she worked as a part-time bus driver, mainly with students having disabilities. From 1970-72, she worked in a medical front office, performing posting, billing, ordering medications, after earning a medical assistant certificate. Her most recent job was with the Chaffey Union School District, in which she was a gym assistant. BY cared for the equipment and was working toward being a physical education trainer when she was injured and had to leave.

BY wears glasses "all the time", and takes medication for tendinitis and thyroid problems, and is allergic to solder flux.

She listed her vocational strengths as: an ability to finish what has been started, resourcefulness, promptness, flexible, well-organized, responsible, and caring. Her vocational limits were described as no prolonged standing, walking, carrying, stooping, or kneeling.

INTEREST SURVEY:

BY's California Occupational Preference Survey results indicated she would prefer to work in Professional Technical areas (which includes jobs such as drafting, electronics engineer, and quality control engineer), or outdoors (although her physical limitation greatly restricts job availability in this area). Her lowest areas of interest were in Consumer Economics and clerical work.

McCARRON-DIAL:

Motor Testing reflected equal abilities in gross and fine muscular functioning, both within the normal range. Her muscle power and bimanual dexterity ratings were relatively higher than persistent control and kinesthetic integration. Her hand strength was her highest area of performance; her lowest area of performance was the finger-nose-finger task.

Sensory Testing revealed slight perceptual deficits, both on the Bender Visual Motor Gestalt Test and the Haptic Visual Discrimination Test. Within this range of minimal dysfunction, experience can be expected to improve performance.

WORK SAMPLES:

Microtower (1219 Rehabilitation Client norms)

Finger Dexterity	70th percentile
Hand Dexterity	97th "

VALPAR (San Diego Employed Worker norms)

Independent Problem Solving	92nd percentile
Drafting (did not complete	

DISCUSSION:

Although BY originally wished to enter a drafting program, she appeared to realize that her performance on the VALPAR drafting work sample was difficult for her. This is not particularly surprising in view of her minor perceptual deficits. She attempted, partially, the "Use of Rule, T-Square and Triangle" portion before disengaging from the task.

After discussing with me her testing results, BY decided to visit the Employment Development Department to investigate CETA eligibility and training programs. She thought she might attempt telephone operator work, marketing research interviewing, or laboratory technologist work. She intends to coordinate her job search with her private rehabilitation agency counselor.

RECOMMENDATIONS:

1. BY should be encouraged to cooperate with her private rehabilitation counselor for follow-up in training or job placement.

2. She should consider jobs involving bimanual, hand, and finger dexterity, as well as those matching her interests and past experience (working with people or data).

3. BY should be cautious about jobs involving mobility, perceptual (visual) skills, or those which might present allergic reactions, such as soldering wires.

Preston Chipps   Date
Vocational Evaluator

WORK EVALUATION SUMMARY

Name: ______________________ Date: ______________

Social Security Number: ______________________

TEST RESULTS

Skill Area.	Test and Testing Date:	Norm Group:	Percentile or Category												
			Below Average				Average					Ab.	Av.	Exc.	
			0	10	20	30	35	40	50	60	65	70	80	90	95
Verbal/ Reading			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Numerical Mathematics			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Abstract Reasoning	PPVT 11/5/80	Age 18-5	*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	[✓ *]	*	*	*	*	*	*
Aptitude Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Dexterity Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Interest Inventory:	COPS	Pro Tech	*	*	*	*	*	*	*	*	*	*	*	*	[✓ *]
		Outdoor	*	*	*	*	*	*	*	*	*	*	*	[✓ *]	*
		ConsumerEd	[✓ *]	*	*	*	*	*	*	*	*	*	*	*	*
		Clerical	[✓ *]	*	*	*	*	*	*	*	*	*	*	*	*
Work Samples:	Microtower	1219 rehab	*	*	*	*	*	*	*	*	*	*	*	*	*
	Bott Cap & Pack	clients	*	*	*	*	*	*	*	*	*	*	*	*	[✓ *]
	Elec Conn Assem		*	*	*	*	*	*	*	*	*	[✓ *]	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
	VALPAR		*	*	*	*	*	*	*	*	*	*	*	*	*
	Ind Prob Solv	S.D. emp	*	*	*	*	*	*	*	*	*	*	*	[✓ *]	*
		workers	*	*	*	*	*	*	*	*	*	*	*	*	*
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			*	*	*	*	*	*	*	*	*	*	*	*	*

CX - A Student With A Developmental Disability

1. Referral

CX was referred by a Learning Disabilities Program staff member. The question was, "Can CX succeed as a student in an academic program?" The background information, from CX's file, indicated that she had been a Department of Rehabilitation client at one time, and had been placed in a sheltered workshop.

2. Initial Interview

CX stated that she wished to be a secretary (see report).

3. Testing

CX was administered the Comprehensive Occupational Assessment Training System (COATS) clerical-office work sample. Throughout the testing, she performed tasks adequately, in general, but several areas of difficulty were identified. In conjunction with toher testing data, it was felt that she would probably encounter difficulty in completing an academic program, although with some remediation, office work was not ruled out.

4. Exit Interview

CX agreed that she had to improve some of her performances in order to succeed at her original secretarial goal.

5. Follow-Up

CX enrolled in a sheltered workshop the next quarter, and is working toward transition into community employment by developing basic skills.

VOCATIONAL EVALUATION

Student: CX
Period of Evaluation: Spring Quarter of 1980, 9/22 through 11/12/80
Date of Birth: 2/14/50
Chronological Age: 30 years, 9 months

REASON FOR REFERRAL:

CX underwent vocational evaluation at the request of the Learning Disabilities Staff, in order to determine the possibility of her ability to succeed in an academic program.

DIAGNOSIS:

Learning disability, possible organic brain damage.

INTERVIEW:

CX appeared for her 9/22/80 interview with me, dressed appropriately, and was cooperative and friendly. She was prompt for her appointment. CX alternated serious discussion of her history with humor, sometimes accompanied by giggles. She reported having recently been divorced and under the care of a counselor.

As a secretary for her father for about one year, CX reported earning $3.90 per hour while performing filing, typing, answering the telephone, and mail-sorting (2-3 hours per day, 2 days per week). For one year, she worked as a typist for her uncle, leaving this job to get married (1977). She has used a typewriter, filing systems, message pads, ditto machine, and copier.

During her work experience, CX enjoyed answering the telephone the least, and did not enjoy working under pressure. She stated she does not like housework. Although her file indicated she had worked at a sheltered workshop for a year as an assembler, she did not mention this to me.

CX listed her vocational strengths as: typing (30 wpm), punctuality, and an ability to work with people. She listed her vocational limits as: need for improvement in English skills, and a preference for a low-pressure environment. Her hobbies include playing the piano and cooking, and she stated she preferred to work with "things" and "numbers", as opposed to "people". Her stated interest was becoming a secretary. CX's Spring Quarter interests included the following occupations: library aide, cashier, hotel clerk, child care worker, airlines reservation agent, florist, and pet shop attendant.

Vocational exploration exercises revealed that CX preferred to work with "processes, methods or machines"; in business contact; with people; and in duties which change frequently. It should be noted that some of her preferences appear to conflict (e.g., working with "people" versus "things" and "numbers").

VOCATIONAL TESTING:

Sensory Testing - reflected a rather severe perceptual deficit (possibly visual).

Motor Testing - revealed what appeared to be brain damage resulting in a hemiplegic-type impairment of left-sided functioning. The poor left-sided motor functioning resulted in severe balance and coordination deficits in persistent muscular control, muscle power, bimanual dexterity, and an overall neuromuscular development profile resembling moderate impairment (as compared with the "Normal Young Adult" norms in the MDWES).

Emotional Observation - Spring Quarter observations resulted in a high rating on the Impulsivity and Socialization scales of the OEI. Specifically, she was disorganized and confused in work situations, easily distractible, easily upset, impatient, and prone to inconsistent work patterns. Her behavior was rated as socially immature, with many inappropriate behaviors; and had little self-awareness or ability to learn from past experience. During Fall Quarter classroom interaction, CX was observed to disrupt classroom activities by chatting with other students. However, during other activities and work sample testing, CX's behavior appeared better adjusted than in the previous quarter. The possibility that she may have been under situational stress during her divorce experience, should be investigated. CX may be under less stress at the present time, which could affect her social and interpersonal behavior.

McCARRON-DIAL:

Multiple regression formulae, based on her MDWES profile, projected that CX should be expected to earn approximately 39% minimum wage in a "high, extended" sheltered workshop setting after training, and 54% minimum wage after one year's experience. The scores on her WAIS administrations conflict (FS 66, 3/10/78 versus FS 81, Spring Quarter 1980). It may be of interest to re-administer the WAIS in order to resolve this discrepancy.

WORK SAMPLES:

CX's manual and finger dexterity were measured as slow (in the "Much Below Average" range) compared with "1219 Rehabilitation Clients" norms. Her ability to handle money was judged poor, and her ability to perform arithmetic calculations appeared to decrease under stress. Her Payroll Computation score was in the "Above Average" range. Her verbal comprehension score was in the Average range. CX's Independent Problem Solving score of 15 percentile (San Diego Employed Worker norms) was based on a low time score. This measured CX's ability to work within prescribed standards and specifications and attention to minute detail in reviewing records and avoiding errors.

CX's COATS Clerical-Office work sample performance reflected a good tolerance for frustration when she could not locate a required item. She rated her performance as "Fairly Well" done, and agreed that her spelling and math skills could be improved upon. Her handwriting, although not illegible, was not exemplary (e.g., she dotted capital I's).

INTEREST SURVEYS:

CX's Self-Directed Search pointed to a preference to work in a Social/Conventional environment. Her COATS Job Matching analysis suggested Food Service, Housekeeping, and Medical Services; her next-best matches were Customer Service/ Clerical, Sales, and Sales/Service.

SUMMARY:

CX's chosen career goal of being a secretary appears unrealistic at the present time, even though she reported having two year's experience in this field. Her English skills would need to improve for her to be successful as a secretary. She may learn more about her ability as a typist, through the typing course in which she is presently engaged. If CX is able to optimally develop her skills within her potential range of functioning, she may well be able to work in an office as a file clerk, front office clerk, keypunch operator (depending on her success in typing), or related job. Otherwise, CX could likely compete as a cafeteria worker, library aide, or housekeeper (not in her range of interest currently).

Her vocational strengths mainly lie in her verbal-reading abilities and sense of responsibility. Her limits are guided by her perceptual and physical coordination functioning.

RECOMMENDATIONS:

1. Personal counseling may assist CX in developing greater social maturity.
2. Opthalmorgraphic, Telebinocular, and GFW Auditory Series testing may clarify her perceptual difficulties.
3. Monitoring CX's success in typing and other academic coursework will assist in deciding specific clerical occupations for her to consider.
4. In order to clarify CX's cognitive potential, it is suggested that she be administered the Cattell or re-administered the WAIS.
5. If it appears that CX may not be able to compete successfully in clerical office work, consideration should be given to: cafeteria work, library aide, housekeeper, or possibly child care work.

Preston Chipps — Date
Vocational Evaluator

VOCATIONAL EVALUATION RECOMMENDATIONS

I. VOCATIONAL EVALUATION

__X__ Further Vocational Evaluation not recommended at this time:

____ Not Ready for Vocational Evaluation

____ Ready for Job Training

____ Ready for Educational Program

____ Ready for Job Placement

__X__ In need of other services

____ Further Vocational Evaluation needed:

____ At lower level

____ At higher level

____ Because of absence

____ For vocational exploration and focus

____ Other ________________________________

____ Suggested areas of further Vocational Evaluation:

____

____

____ Other: ________________________________

____

____

II. INDIVIDUAL NEEDS OR ATTENTION

__X__ Counseling

____ Academic Counseling/Advisement

____ To clarify educational goals

____ To clarify vocational goals

____ Adjustment to disability

Counseling con't.:

x Personal counseling

_____Psychotherapy

_____Other _____

_____Other Services or Evrluation:

_____Speech Therapy Evaluation

_____Learning Disability Evaluation/Screening

_____Psychological Evaluation

_____Psychiatric Evaluation

_____Neurological Evaluation

X Audiometric Evaluation

X Ophthamology Examination

_____General Medical Examination

X Other Telebinocular

_____Tutoring:

_____Reading

_____Math

_____Other _____

_____Other Services:

_____Notetaker

_____Interpreter

_____Reader

_____Transportation to campus

_____Transportation on campus

_____Special Parking

_____Priority Registration

_____Large Pring Materials

_____Transcriber Service

Other services con't.:

- _____Tape Recorder
- _____Mobility Assistance
- _____Special Equipment ________________________________
- _____Financial Aid ________________________________
- _____Other ________________________________

_____Job Placement Assistance

III. SUGGESTED EDUCATIONAL PROGRAMS:

_____Educational Program not recommended at this time

_____Special Education:

- _____Survey of Physical Disabilities
- _____Independent Living Skills for the Disabled
- _____Prevocational Skills
- _____Speech Therapy
- _____Career Exploration
- _____Braille ________________________________
- _____Job Seeking Skills
- _____Sign Language ________________________________
- _____Directed Studies in Special Education
- _____Other ________________________________

_____Developmental Learning:

- _____Arithmetic Skills
- _____Basic Reading
- _____Developmental Reading
- _____Personal Development
- _____Other ________________________________

_____General Courses:

- _____Suggested Majors: ________________________________

____

____

General Courses con't.:

____Suggested Courses:

____Tutoring:

____Appropriate Educational Program not available at Chaffey College:

- ____Unaware of location of program
- ____Available at ______________________________
- ____Ready for four year institution
- ____Ready for transfer
- ____Other ______________________________

IV. VOCATIONAL RECOMMENDATIONS:

____Employment or Job Training not recommended at this time.

____Pre-Vocational Training ______________________________

____Sheltered Workshop:

- ____Extended evaluation and rehabilitation
- ____Work Adjustment
- ____Work Skill Attainment
- ____Work Activities Center
- ____Final or Extended Placement
- ____Other ______________________________

_____Formal Job Training:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____On the Job Training:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____Direct Job Placement:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

_____Part-Time Employment:

_____Suggested Alternatives:

1. ____
2. ____
3. ____
4. ____

WORK EVALUATION SUMMARY

Name: CX Date:

Social Security Number:

TEST RESULTS

Skill Area:	Test and Testing Date:	Norm Group:	Percentile or Category												
			Below Average				Average					Ab. Av.		Exc.	
			0	10	20	30	35	40	50	60	65	70	80	90	95
Verbal/ Reading	WRAT (4/2/80)		*	*	*	*	*	*	*	*	*	*	*	*	*
	Reading	7.1 grade	*	*	*	*	*	*	*	*	*	*	*	*	*
	Spelling	5.2 grade													
Numerical Mathematics	Arithmetic	5.3 grade	*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Abstract Reasoning	WAIS (3/1-/78)		*	*	*	*	*	*	*	X	*	*	*	*	*
	WAIS (Spring Qtr)		*	*	*	*	*	*	*	*	*	*	X	*	*
Aptitude Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Dexterity Tests:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Interest Inventory:			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
Work Samples:	Microtower	1219 rehab	*	*	*	*	*	*	*	*	*	*	*	*	*
		clients	*	*	*	*	*	*	*	*	*	*	*	*	*
	Bott Cap & Pack		*	*	X *	*	*	*	*	*	*	*	*	*	*
	Elec Conn Assem		* X	*	*	*	*	*	*	*	*	*	*	*	*
	Making Change		*	*	X	*	*	*	*	*	*	*	*	*	*
	(Spring Qtr)		*	*	*	*	*	*	*	*	*	*	*	*	*
	Want Ads Comp		*	*	*	*	*	*	X	*	*	*	*	*	*
	(10/13/80)		*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
	VALPAR	SD Empl	*	*	X *	*	*	*	*	*	*	*	*	*	*
	IPS (10/8/80)	Workers	*	*	*	*	*	*	*	*	*	*	*	*	*
			*	*	*	*	*	*	*	*	*	*	*	*	*
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DW - A Student With A Sight Impairment

1. Referral

The college specialist assigned to work with communicative disabilities referred DW to vocational evaluation in order to resolve the question as to whether or not he had the ability to obtain employment outside a sheltered workshop.

2. Initial Interview

DW was mainly interested in obtaining employment in the community in order to avoid re-engaging in sheltered workshop programs. He reported enjoying his consumer economics course the most of all those he has taken.

3. Testing

In addition to those tests reported in the attached report, the Haptic Memory Matching Test (HMMT) was administered. DW scored in the upper average range for both hands. This appeared to conflict with assumptions made from previous testing data. It appeared that DW did not have the extent of difficulty in cognition which was reflected in other rests. The conclusion was drawn that DW may have performed poorly on previous tests because of situational stress, cultural or educational deprivation, or other reasons. DW was encouraged to develop basic academic skills through a remediation program, and to engage in independent living skills development.

4. Exit Interview

DW had not yet decided upon a specific occupational goal, but had tentatively decided to investigate electronics assembly (with job station modification), or some type of social service work. He agreed to continue working on basic skills, stating that he recognized the urgency of this pursuit.

5. Follow-Up

Several quarters of remedial work in basic skills allowed DW to successfully complete several academic courses outside the special services program. He had built greater self-confidence, acquired a talking calculator, and had received mobility training. His goal had changed to instructional occupations, and he was judged by staff members as becoming much more independent.

VOCATIONAL EVALUATION

Client: DW
Period of Evaluation: Winter Quarter 1980
Date of Birth: 3/24/52
Chronological Age: 28.10

REASON FOR REFERRAL:

Determine client's vocational aptitudes, limitations, interests and general potential.

BACKGROUND INFORMATION:

Diagnosis - Severe learning disability in all areas; blindness; has worked in several workshops, but no community jobs; no previous testing information is available.

WORK SAMPLE RESULTS:

McCarron-Dial Evaluation

Verbal-Cognitive (WAIS, verbal only) - Dull range of intelligence.

Motor (MAND) - Severe dysfunction.

Emotional (OEI) - Severe dysfunction.

Integration-Coping (BRS) - Severe dysfunction.

DW was cooperative, but frequently confused throughout the evaluation. His performance on the WAIS Verbal subtest placed him in the dull-normal range of intelligence. DW had a very confused and disorganized approach to problem solving. He made snap, impulsive decisions, without consideration for the possible consequences. He appeared to be suffering from short-term memory deficits, either through inattention, neurological deficit, or lack of practice at conceptualizations. Breakdown of the WAIS indicated relative conceptual and sequencing ability, but very poor attention span. We were unable to administer the normal perceptual tests to DW, and we don't currently have tests of that nature specifically for the blind. Motor testing indicated that DW is suffering severe dysfunctions in comparison to the Normal Young Adult Population. The only score in which he scores relatively well is the bimanual dexterity. He scores in the severe range in muscle power, kinesthetic integration, and persistent muscular control. The Hand Preference Index indicates that DW is suffering brain damage in the left cerebral hemisphere, resulting in significant impairment of the functions of his right side. DW thus has poor control of fine muscles, and some finger grip and release difficulties. It is possible that he doesn't have good spatial and kinesthetic awareness, especially in regard to his right side. He ignores his right hand, and will resist using it if possible. Often, DW had to have his hands "molded" into the required shapes and positions. Emotionally, he demonstrated severe deficits in the scales of Self-Concept, Impulsivity, and Anxiety. Specifically, these scores related to his confusion and disorganized approach to most situations, and his subsequent impulsive, ill-considered actions. DW was easily distracted, with many restless, fidgety movements and interruptions of others. He found it difficutl to complete work without constant guidance and reinforcement, and became easily defeated and upset. This, of course, results in inconsistent work patterns. He expresses many concerns and complaints about his physical condition and seems frequently possessed of rather unfounded, and targetless worry and dread. He saw himself as mentally unstable and expressed this concern on a continual basis. He initially expressed confidence, but quickly reverted to, "I can't do it" statements, when asked to actually initiate a task. He had very unrealistic views of his strengths and limitations, and has yet to obtain a realistic view of work requirements. Integration-Coping deficits are more severe than would be expected even taking blindness into consideration. DW stated that he has not been trained in mobility skills, and that he needs assistance to get anywhere.

WRAT:

Reading - Kg. 3

DW was unable to complete any of the math problems. He has no math assistance ance in several years apparently. This would appear to be true based on his performance. He obviously has no idea of how to conceptualize even the most basic two digit addition, and his ability to do multiplication tables is limited to part of the 2's. He doesn't know how to use either an abacus, or "talking calculator". In reading, he has not been trained in Braille, although he states he was involved in training at one time and dropped out for an unspecified reason.

MICRO-TOWER EVALUATION:

Bottle Capping & Packing - DW scored in the Much-Below-Average range (20th percentile and below), as compared to a national rehabilitation population. This confirms findings of the motor testing in gross manual skills.

Electronic Connector Assembly - DW scored in the Much-Below-Average range. He had trouble with his right hand. He could not squeeze his fingertips together well enough to handle the small pins. He also did not follow instructions well. He expressed anxiety over the timed tests. It is apparent that DW will not currently be capable of meeting production requirements in the community on any job involving bimanual dexterity.

INTEREST TESTING:

California Occupational Preference System (COPS):

DW showed vocational confusion, and unwillingness to commit to any interest. His highest three choices were: Consumer Economics (65%); Professional Arts (60%); and Outdoor Work (53%).

Consumer Economics occupations are concerned with the preparation and packing of foods and the production and care of clothing and textile products such as: baker, cook, carpet layer, and tailor.

Professional Arts involve individualized expression of creative or musical talent and ability in the fields of design, fine arts, and performing arts. It includes such jobs as: actor, dancer, producer, decorator, illustrator and architect.

Outdoor work involves such jobs as: animal breeder, dog groomer, farm hand, rancher and naturalist.

In counseling DW, he was found to be totally confused vocationally and virtually incapable of deciding on a vocation. This is partly due to low self-confidence, lack of knowledge and emotional deficits. He has a very unrealistic assessment of his abilities and limitations and will largely be incapable of performing jobs he had discussed with us, such as insurance agent.

SUMMARY:

DW is a blind student functioning intellectually at the dull-normal range of intelligence with evidence of left cerebral himisphere brain damage. Motor testing confirms the brain damage, and shows deficits in all areas of muscle control, balance, coordination, and strength. Bimanual dexterity is somewhat better, but is still below average for a normal population. DW has significant difficulties in utilizing his right arm and hand with control and strength. Emotionally, he was frequently confused, anxious, disorganized, and impulsive, and generally lacking in self-confidence. He had difficulty maintaining steady work patterns. He was extremely distractable which may contribute to his rather severe short-term memory deficits. Educationally, DW is scoring at the Kg. 3 level in Spelling. He is virtually at the same level in math, and can't do basic two digit addition, or his multiplication tables. He currently is not trained in Braille. Work samples confirm that he will be incapable of most jobs in the community at this time. He was confused on vocational choices and saw himself as incapable of most jobs.

RECOMMENDATIONS:

1. Vocational and personal counseling.
2. Enrollment in a workshop program emphasizing developing bimanual dexterity skills.
3. Training in Brailler.
4. Training in math, and use of abacus or talking calculator.
5. Neurological exam.
6. Mobility skills training.

Vocational Evaluator

ANNOTATED BIBLIOGRAPHY

1. Materials Development Center, MDC Behavior Identification Format. Menomonie, Wisconsin: University of Wisconsin - Stout, Department of Rehabilitation and Manpower Services, 1974. Price: $2.00

   The MDC Behavior Identification Format is designed as an evaluator's tool for the identification, understanding, and description of specific work behaviors, both positive and negative, which have a bearing on the employability of the handicapped client. Such recorded observation results provide specificity and structure for work adjustment training and treatment programming and help to measure a client's progress or change within a treatment/training program. The format contains a detailed explanation of the rating system, recommendations for use of the form and manual, and definitions, examples, and sample descriptions for each of the 22 behavioral categories.

2. Esser, T., Effective report writing in vocational evaluation and work adjustment programs. Menomonie, Wisconsin: University of Wisconsin - Stout, Department of Rehabilitation and Manpower Services, Materials Development Center, 1974. Price: $2.50

   The publication is designed to provide general principles of report writing content and style along with examples of report forms and formats currently being used in the field. This information should be helpful in minimizing staff time spent on report preparation, increasing uniformity in report content, and developing a reporting style and technique which best meets the needs of clients, the referral source, and the rehabilitation agency or program. The 118 page manual also includes an appendix of twelve report formats and organizational aids contributed by persons and agencies in the field.

3. Esser, T., Individualized client planning for work adjustment services. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1975. Price: $1.50

   Discuss the importance of an [illegible]vidualized work adjustment plan and provides instruction in the use of the Individualized Work Adjustment Plan Form and Individual Goal Sheet. Examples are included of ways in which the forms may be used. A work adjustment program evaluation checklist is included to assist work adjustment personnel in evaluating their own work adjustment programs as well as work adjustment plan development.

4. Dickson, M., Work sample evaluation of blind clients: Criteria for administration and development. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1976. Price: $1.50

   The purpose of this study is to define and present a useable set of criteria for vocational evaluators working with blind clients and using work samples as one means of determining their vocational potential. Included is a rationale for the use of work samples, specific steps for their administration and scoring, use of norms, a review of the literature, suggested modifications for the Philadelphia JEVS Work Sample Battery, the Singer Vocational Evaluation System, and the VALPAR Component Work Sample Series.

5. Botterbusch, K., The use of psychological tests with individuals who are severely disabled. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1976. Price: $2.00

This publication is intended to provide vocational evaluators and other professionals involved in assessing disabled persons with practical guidelines for selecting, adapting, and administering standardized psychological tests to individuals who have sight, hearing, and academic handicaps. Part I describes ways of selecting and modifying tests for the above disability groups. Part II describes tests commonly used in vocational evaluation and offers suggestions for selection, modification, and use. Part III briefly describes some tests specially designed for the severely disabled.

6. U.S. Department of Labor, Handbook for analyzing jobs. Washington, D.C.: Author, 1972. (Available as: Materials Development Center Reprint Series No. 13) Price: $3.00

A completely revised and updated 1972 Department of Labor publication which supersedes the Training and Reference Manual for Job Analysis published in 1965. Presents a new approach and structured procedure for conducting a job analysis. Through the concepts and techniques presented, current and comprehensive information about the job and worker requirements for occupations can be obtained. This publication is especially useful for evaluators who wish to have a guideline for obtaining detailed, specific information about jobs in order to develop evaluation procedures.

7. Vocational Evaluation and Work Adjustment Association, Vocational evaluation project final report. Vocational Evaluation and Work Adjustment Bulletin, 1975, 8, special edition. (Available as: Materials Development Center Reprint Series No. 12) Price: $2.00

This is the final report of the Vocational Evaluation and Work Adjustment Association (VEWAA) Project which spanned the years from 1972 to 1975. Task force reports are included for the following topical areas: vocational evaluation services and the human delivery system; the tools of vocational evaluation; standards for vocational evaluation; the relationship of vocational evaluation to organizationa and educational institutions; and a glossary of vocational evaluation terminology.

8. Fry, R. (Ed), Work evaluation and adjustment: An annotated bibliography, 1947 - 1977. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $3.00

Contains descriptive annotations of 1,296 periodical articles, speeches, and publications related to work evaluation and adjustment for the period 1947 through 1977. Both a KWOC (keyword-out-of-context) and a subject type index are included to aid the user in identification of annotations relevant to a particular topic area.

9. Fry, R. (Ed.), Work evaluation and adjustment: An annotated bibliography, 1978 supplement. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1979. Price: $1.50

The Materials Development Center publishes annual annotated bibliographies on the literature in work evaluation and adjustment. The above bibliography, which contains 151 entries, includes primarily the literature produced in 1978. This bibliography and the previous bibliography serve as a reference to the literature in work evaluation and adjustment, and as a catalog to the loan literature from MDC. Both a KWOC (keyword-out-of-context) and a subject type index are included to aid the user in quick identification of annotations related to a particular area. The indexes include the titles and/or accession numbers of all documents listed in this and the previous bibliography.

10. Fry, R. (Ed.), Work evaluation and adjustment: An annotated bibliography, 1979 supplement. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1980. Price: $1.50

The above bibliography, which contains 141 entries, includes primarily the literature produced in 1979. This and the previous bibliographies serve as a reference to the literature in work evaluation and adjustment, and as a catalog to the loan literature from MDC. Both a KWOC (keyword-out-of-context) and a subject type index are included to aid the user in quick identification of annotations related to a particular area. The indexes include the titles and/or accession numbers of all documents listed in this and the previous bibliographies.

11. Fry, R., Training programs in work evaluation, adjustment, and facility management, Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center. No charge for single copies (multiple copies 25¢ each)

This document is a brief listing of agencies and institutions which provide degree or short-term training in vocational evaluation, adjustment services, and workshop administration. Titles and descriptions of course work, time required, certificates or degrees offered, and contact person are included.

12. Materials Development Center, Work sample manual format. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, 1977. Price: $2.00

The Work Sample Manual Format is designed to help practitioners to write their own work sample manuals in a standardized format. Standard informational items which should be included in a work sample manual and which are detailed in this format include: introduction, instructions to the evaluator, administration, scoring, insights, developmental data, construction, bibliography, and an appendix. Examples are used throughout to illustrate points. Also included is a work sample manual organized according to the work sample manual format.

13. Vocational Evaluation and Work Adjustment Association & Commission on Accreditation of Rehabilitation Facilities, VEWAA-CARF Vocational evaluation and work adjustment standards with interpretive guidelines and VEWAA glossary. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $1.00

    Two separate documents are included in this publication. The first, the "Vocational Evaluation and Work Adjustment Standards With Interpretive Guidelines," developed by VEWAA (Vocational Evaluation and Work Adjustment Association), in cooperation with CARF (Commission on Accreditation of Rehabilitation Facilities) is designed to inform practioners of those standards which have particular application to the field of vocational evaluation and work adjustment. The accompanying interpretations will be of assistance in meeting the intent of the standards, especially for those who are preparing for CARF accreditation. The second document, the "VEWAA Glossary," contains definitions of 140 terms which are closely related to the profession and practice of vocational evaluation and work adjustment.

14. Botterbusch, K., A guide to job site evaluation. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $1.50

    Job site evaluation is an assessment technique where the client performs the job duties of a real job in competitive industry. Its main advantage is that it is the closest to the actual competitive employment situation in which the client will eventually be placed. By using job site evaluation, both the evaluator and the client can test and explore the world of competitive employment in a realistic situation. The purpose of this publication is to encourage evaluators to use job site evaluations. Procedures, ideas, and examples are included to help insure the successful use of job sites. The first part of the publication describes the specific uses of job sites, ways that the evaluator can use job sites for planning client evaluation, and the places where job sites can be found. The second part provides information on how to set up a job site; the third tells how to evaluate the client on the job site. Wate and hour regulations are described and examples of job site evaluation forms are given in the appendices.

15. Fry, R., Occupational information in vocational evaluation. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $1.00

    There has been a growing awareness and concern within the field of vocational evaluation, particularly within the last five years, that a need exists for incorporating more and better occupational facts and information into the vocational evaluation process. The goal of this publication is to encourage vocational evaluation professionals to think about the importance of providing clients with occupational facts and information, and to provide some direction for obtaining and using that information. Specific objectives are to: (1) define the term occupational information and differentiate it from other closely related terms; (2) discuss the importance of using occupational information in the vocational evaluation process; (3) suggest some ways of using occupational information in vocational evaluation; (4) suggest some ways for classifying the information for the most convenient client and professional use; (5) provide information on how to find out and keep up-to-date on what occupational information media exists; (6) list some suggested initial materials for purchase for a starter occupational information resource area; and finally, (7) suggest some ways to determine what occupational information should be ordered to meet the needs of the particular facility and clientele.

16. Jewish Vocational Service and Employment Center, A scale of employability for handicapped persons. Chicago: Author, 1959. (Available as: Materials Development Center Reprint Series No. 14) Price: $2.00

The scale of employability was developed at the Jewish Vocational Service and Employment Center, Chicago, Illinois, and was supported through a research and demonstration grant from the Rehabilitation Services Administration, Department of Health, Education and Welfare, Washington, D.C. The general purpose was to develop a predictive scale for evaluating the employability of vocationally handicaped persons. For the purpose of this scale, "employability" was defined as meaning whether or not a client could be placed on a job and whether or not the client could keep the job after being placed. The scale is made up of three sub-scales: (1) a counseling scale to be filled out during intake, (2) a psychology scale to be completed by a psychometrist, and (3) a workshop scale to be filled out by workshop foremen.

17. McCray, P., The individual evaluation plan. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $1.50

The purpose of this publication is to help people directly involved with vocational evaluation understand why individual evaluation planning is important and how it may be effectively practiced. Individual evaluation planning is an essential component of a comprehensive vocational evaluation process. The I.E.P. provides a master plan of the purposes and objectives of an evaluation, a written record of the assessment techniques used, who was involved in carrying out the evaluation, and the extent to which specific goals were achieved. Most importantly, it insures that the unique needs of each individual client are given special consideration and that there will be an organized attempt to satisfy those needs in the most effective and efficient manner possible. The Individual Evaluation Plan meets the requirements of the Vocational Evaluation and Work Adjustment Association (VEWAA) and the Commission on Accreditation of Rehabilitation Facilities (CARF) that a written individual evaluation plan be developed for each client and that every plan clearly outline the purpose of the evaluation, the assessment techniques to be used, who will be involved, review dates, and modifications.

18. Botterbusch, K., Psychological testing in vocational evaluation. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1978. Price: $2.00

The purpose of this publication is to help the evaluator wisely select and use tests within the context of the referral questions and the individualized evaluation plan. Part I contains information on why tests are used in evaluation, problems with tests, and how to select tests. Part II is a careful review of specific tests that either have been found to be successful within vocational evaluation or have this potential. Also included is a list of books on testing and statistics. Part II used the same format, and may be considered as a revision of the 1973 MDC publication, Tests and Measurements for Vocational Evaluators (no longer available from MDC).

19. Esser, T., Client orientation: A key to successful involvement in rehabilitation facility services. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1977. Price: 25¢

Provides a guideline for developing a client orientation program to an agency's service structure. Emphasizes that the orientation program should encourage and insure that individual's involvement and participation in the program. Covers aspects such as beginning with the referring agency, encouraging an intake visit, conducting an initial interview, providing a client handbook, arranging an orientation group, use of audiovisual aids, involving the client in the decision making process, considering client advocacy, involving significant others, and conducting an exit interview.

20. McCray, P., Learning assessment in vocational evaluation. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1979. Price: $1.00

Discusses the subject of separating learning from performance in work sample testing. Primary emphasis is placed on providing a rationale for assuring that a client thoroughly understands and learns what to do before performance capability on the task is assessed. Justification and techniques for modifying standardized instructions are offered, and four basic instructional techniques are discussed: written, oral, demonstration/modeling, and hands on.

21. Tesolowski, G., Job readiness training curriculum. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1979. Price: $2.50

The Job Readiness Training Curriculum (JRT) is designed for use in training clients in the areas of job preparation (why people work, self-appraisal), job seeking (applications, resumes, job interviews), and job maintenance (acceptable and non-acceptable job behaviors, advancement). Instructional materials such as work sheets, information sheets, and masters for transparencies are included with the curriculum. Audiovisual instructional materials such as 16mm films filmstrips and cassettes are listed for use as supplementary material.

22. McCray, P., An interpretation of VEWAA/CARF work sample standards. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1979. Price: $1.00

The Vocational Evaluation and Work Adjustment Association (VEWAA) has developed minimum standards to be applied to work samples. These standards have been adopted by the Commission on Accreditation of Rehabilitation Facilities (CARF) because they provide a sound basis for the development of reliable work samples. The purpose of this publication is to review each of the work sample standards as well as provide insight and understanding into the underlying purposes of the guidelines. With this information in mind, vocational evaluators and program administrators should be able to better assess the effectiveness and quality of their work samples with regard to: (1) meeting the needs of their clients and referral sources in terms of using valid and reliable assessment techniques, and (2) satisfying professional standards as well as CARF accreditation standards for vocational evaluation programs. In addition, the guidelines should serve as a valuable reference for selecting work samples which satisfy these requirements and, therefore, are most likely to provide reliable and valid information as to client capabilities and limitations.

23. Esser, T., Gathering information for evaluation planning. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1980. Price: $2.00

This publication has been written to provide rehabilitation professionals with information about and a structure for conducting the client information-gathering process prior to beginning vocational evaluation services. Although the emphasis is on the information-gathering process as related specifically to vocational evaluation, the material presented is relevant to the planning and selection of services throughout the vocational rehabilitation delivery system. This publication is divided into two major parts. The title emphasizes the activity of collecting client information for use in planning, and a substantial part of the manuscript addresses this activity, including presentation of a model for structuring the information-gathering process. The second part demonstrates how the collected information is analyzed in order to develop "referral" or evaluation questions. A number of examples are presented to better illustrate this process and its underlying concepts.

24. Robinson, C., The Dictionary of Occupational Titles in vocational assessment: A self-study manual. Menomonie, Wisconsin: University of Wisconsin - Stout, Stout Vocational Rehabilitation Institute, Materials Development Center, 1979. Price: $3.00

This self-instructional manual is designed to assist professionals in vocational rehabilitation in the effective use of the fourth edition of the Dictionary of Occupational Titles. The beginning section provides instruction in the content, format, and use of the DOT. The second section instructs in the use of other materials which supplement the DOT and how this information can be used to compare client characteristics with those required for various occupations.